

AN
INQUIRY
INTO THE
MEANS
OF IMPROVING
MEDICAL KNOWLEDGE,

BY EXAMINING
All those METHODS which have Hindered,
OR
Increased its IMPROVEMENT in all past Ages.

To which is added,
AN EXPLANATION
OF THE
MOTION and ACTION of FIRE,
IN AND
UPON THE HUMAN BODY,
BOTH
IN CONTINUING LIFE,
AND IN
PRODUCING AND CURING DISEASES.

By *WILLIAM HILLARY*, M.D.

Rationalem quidem puto Medicinam esse debere : instrui vero ab
evidentibus Causis ; obscuris omnibus, non à cogitatione Arti-
ficis, sed ab ipsa Arte rejectis. CELSUS in Præfat. sub finem.
Tolle Causam et cessabit Effectum.

L O N D O N :
Printed for C. HITCH and L. HAWES in *Pater-noster-Row*.
MDCCLXI.



P R E F A C E.

THE Desire of seeing Medical Knowledge further improved, and the Means of knowing the true Causes of all Diseases rendered more certain, as well as the Methods of curing them made more perfect and successful, were the Motives which first induced me to make the following Inquiries.

An impartial Inquiry into the first Rise of the medical Art, and the Methods and Means by which all medicinal Knowledge has been obtained, and how it has been gradually improved in all Ages past, seemed to be the most probable and effectual Way to lead us into the right Method of further improving that Science; if we at the same time carefully observe, and judiciously remark, all those Methods which have been taken with an Intention of making Improvements therein, but have unfortunately proved to be the greatest Hinderance to its Progress and Improvement; either by fallaciously leading ingenious and learned Men into the Methods of forming imaginary philosophical Hypotheses, or any other plausible erroneous Methods, which have both hindered them

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and others from pursuing those Methods by which they might have improved the medical Art. Let us therefore endeavour to make this Inquiry, without either Favour or Affection for, or Prejudice against any Authors, and all Systems and Hypotheses, which have either succeeded, or failed in their Attempts to improve this Art, and speak our Sentiments with that Freedom and Impartiality, which every Inquirer after Truth should always speak and write, and without Malevolence or Prejudice to any one, tho' their Works may justly deserve Condemnation: And then let us diligently pursue all those Methods by which the ART has been, or may be further improved; and as carefully avoid falling into any of those Hypotheses, Systems, and Methods, which have diverted Physicians from, and hindered the Progress of, its Improvement; in order that the medical Science may be still further improved, and brought to a State of greater Perfection.

These Considerations and Desires, induced me to spend those leisure Hours which I had to spare, on my first coming to reside in this City, (which I could not have before, when employed in an extensive Practice) in pursuing these Inquiries, and collecting the following Observations, rather than spend them in the usual Chat of a Coffee-house; and being accustomed to Business, I could not be idle, nor spend them in trifling, or reading Trifles, though they are so much in fashion; therefore I was willing to contribute

tribute my Mite towards that necessary, great, and useful Work.

From these Inquiries it appears, that the first medical Knowledge, and all the Improvements that were made therein, from the earliest Account of Time, down to that of Hippocrates, were all obtained by making Observations on Diseases, and trying various Experiments with Simples, and other Medicines, till they gained some Knowledge of their Virtues and Effects. Hence it appears, that all their Practice was solely Empirical before the time of Hippocrates.

But we find that this great Father of Physick, and Prince of Physicians, so much improved that empirical Practice of his Predecessors, that he brought it in his Time to be a real medical Art: First, by accurately observing Diseases, their different Symptoms, Appearances, and Effects which they produced in the human Body; and then by as carefully observing all the Changes of the Air, Weather, and the Seasons, the various Effects of different Waters, and Changes of Diet, the different Situations of Places, the various Actions and Irregularities of Men, and all the other Causes, both internal and external, which either produce or affect Diseases in the Body; and by Reasoning truly from these different Causes, to the Effects which he saw they produced, he was enabled to investigate the true

Cause of each, and how generally most Diseases then known, and their Effects, were produced. And then by accurately observing Nature, what she did, and how she carried off and cured each of those Diseases, he, by the Assistance of true inductive Reasoning, both learned of her to know what she indicated to him to do, and how he should assist her to carry off and cure all those Diseases.

It was thus that he made all those great Discoveries and more real Improvements in the medical Art, in less than one Century, than all his Predecessors had done in the Space of Two Thousand Years before him; and we may add, more than all his Successors did in Two Thousand Years after him. Thus he not only investigated the true Causes of most Diseases then known, but he also discovered the most rational and judicious Methods of treating and curing them; wherefore he has been justly esteemed and called the Father and Prince of Physicians ever since.

Notwithstanding that this Hippocratick Doctrine was so rational and true, yet we find that it was but strictly followed and adhered to for a few Centuries after his time, even among the Grecians, if we except Aretæus Cappadox, who seems to have adhered to it more closely than any of the Greek Physicians: And altho' the Romans, when they conquered that Country, brought the Hippocratick Doctrine, and all the Sciences from thence, to Rome, yet notwithstanding

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standing the Excellency and Truth of that Doctrine, it either was not truly understood, or was in a short time almost entirely neglected there by all, except the judicious and elegant Celsus, who was the last Roman that strictly adhered to the wise Precepts, and followed the Practice of the great Hippocrates; and lived about Five Hundred Years after him. For we find, that at, or soon after the time of Hippocrates, various ingenious and plausible Systems of Philosophy were invented by several of the Greek Philosophers, which, when they came into fashion, were introduced into the Sciences, and in their Turns into the Theory of Physick, at different times, by different Physicians; for in both those Nations they soon began to follow those new Hypotheses, and to depart from that rational Theory and judicious Method of Practice, which had been established by Hippocrates, which has proved to be the greatest Hinderance to the Improvement of the medical Science. Thus the Corpuscularian Philosophy of Epicurus was first introduced by Aesclepiades; and the Peripatetick Philosophy of Aristotle by Galen; and several other Systems since, as they came into vogue, by others: And those Physicians, who introduced them, have each of them vainly attempted to account for the Causes, and to explain the Manner of the Production of Diseases, and the Methods of curing them, by, and according to the Principles of his favourite Philosophy: And as most of the Principles of their Philosophy were erroneous and false, so consequently most of their Inductions

from them were so also; wherefore, that they might render their Theories more plausible and Truth-like, they invented various fine imaginary Hypotheses, conformable to the Principles of the Philosophy then in fashion, and vainly attempted to compel both Diseases and Nature to conform to the Principles of their Philosophy; though those Principles often had no other Existence but in their own Imaginations. Thus by Reasoning from hypothetical Data, and conformable to imaginary Principles, they formed their fine plausible hypothetical Theories of Physick, which had no real Existence in the Body, nor Conformity to Nature: And none exceeded, or equalled Galen in forming Hypotheses and hypothetical Theories, nor rendered them more plausible; hence his Theory of Physick was universally received by all Physicians, both among the Arabians and the Europeans, during the Space of Fourteen Hundred Years, or more, which not only led many learned and ingenious Physicians into the Method of forming hypothetical Theories, and thence into various Errors, but it diverted them from pursuing those Methods, by which they might have made several useful Discoveries and great Improvements in the medical Science.

And we find, that altho' Learning and the Sciences had made so great a Figure during so many Centuries in Greece, and for several at Rome, before and after Galen's time; yet we also find, that Effeminacy and Luxury had begun to make great Advances before, especially

especially at Rome, and made greater after Galen's time; and as these increased, Learning, and the Sciences declined, till at last they, and the mighty Roman Empire, which had conquered so many great Nations, both fell together in the fifth Century: And the Popes having artfully gained great Power, and having governed many Years as spiritual, now established themselves as temporal Princes also; soon after which, not only the Arts and Sciences, but almost all Learning also, sunk to the lowest Ebb, and were so overwhelmed in a Deluge of Superstition and Ignorance, which they and their Monks introduced, that they were at last almost entirely banished out of Europe, and fled into the Saracen Empire in the East, in the seventh Century, where Learning and the Sciences met with a more favourable Reception, and were greatly encouraged by the Arabians, and their Califfs, during the Space of six or seven Centuries; though they are now almost sunk again into the same State of Ignorance which they were in, before they received their Learning from the Greeks and Europeans. During this time, all Europe remained involved in the darkest State of Superstition and Ignorance, except a few learned Men among the Greeks, whereof some were Physicians, who lived between the fourth and the eighth Centuries; but as they chiefly followed the Theory of Galen, they made no Improvements in the medical Art, except a few in Surgery, and in the Materia Medica.

*During this long time that Superstition and Ignorance reigned thus triumphantly in Europe, Learning and the Sciences were much encouraged by the Saracen Califfs, and were cultivated by the Arabians, who made some considerable Improvements in the medical Science, not only as they have given us an Account of several new Diseases, which were not known to the Greeks, and the Methods of treating and curing them, but they introduced and taught us the Use of several valuable antiphlogistick Medicines, which were not known to the Greeks or Europeans before: They also first introduced the Chemical Art into the Medical, whereby several of the most efficacious Medicines that we now have in the Practice, have been since discovered; but what is still of much greater Importance is, that the Arabians preserved Learning and the Sciences, when they were banished out of Europe by the Priests and Monks, who kept the Laity in the darkest Ignorance; and some Centuries after, the Arabians brought them into Spain, and some other Parts of Europe; and the Greeks a few Centuries after that, being driven from Constantinople by the Turks, brought the Works of the learned Greeks with them into Italy, from whence, and from Spain, Learning began to spread slowly into some other Parts of Europe, but not without great Opposition from the Monks, who still endeavoured to keep the Laity in that State of Ignorance, and the Practice of Physick to themselves, though they were exceeding ignorant therein: -So that it is in vain to
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look for any new Discoveries, or expect to find any Improvements, either in the Medical, or any other Science, during that long time of Ignorance in Europe.

This was the State of Learning till that excellent Art of Printing was found out, and Men began to learn to read and write, and then to think for themselves; and the Reformation began to take place, and spread, and the Generality of Mankind began to discover that they were created rational Beings, and as such, had a natural Right to think for themselves; and notwithstanding all the Oppositions that were made, and the Persecutions that were raised against Learning, and the Learned, by the Monks, the more considerate and ingenious Men began to acquire some Learning, and soon obtained more than the Monks had, which much enraged them; and in Process of Time, Men acquired some Knowledge of the Sciences, and especially of the medical Science; soon after which they began to improve in it, and some considerable Discoveries were made therein by Vessalius, Eustachius, and several others.

And the great Lord Verulam having soon after that, detected and exploded the Errors of the Aristotelian Philosophy, and shewed Mankind the right Way to arrive at the Knowledge of Truth, especially in all Philosophical, and consequently in all medical Subjects, by the Means of accurate Observations, just Experiments, and true inductive Reasoning,

it soon put the Ingenious and Learned upon pursuing those Methods, by which several great Discoveries were made. Thus the great Dr. William Harvey discovered the Circulation of the Blood, and Dr. Sanctorius the Quantity of the insensible Perspiration; and several other learned Physicians discovered the Structure, Use, and Office of various Parts of the human Body: And soon after came the eminent and judicious Dr. Sydenham, who revived and brought the Hippocratick Doctrine and Practice into our Nation, by which he much improved the Practice here, and shewed others the right Way how to improve the medical Art still further.

Soon after Dr. Sydenham came the truly learned and great Dr. Boerhaave, who was blessed with great Penetration, a sound Judgment, and the strongest Memory; all which he early applied with indefatigable Industry, to obtain a perfect Knowledge of all the learned, and many of the modern Languages, and all the Sciences, by which he became a great Mathematician, an able Philosopher, the greatest Anatomist, Chemist, Botanist, and the most eminent Physician of this, or any other Age. With this great Fund of Knowledge, and a perfect Acquaintance with all the Works of the great Hippocrates, and the other Greek, Arabian, and all the valuable modern Physicians, and the Works of all the Philosophers, ancient and modern; (but the Works of Hippocrates, Aretæus Cappadox, Alexander Trallianus,

anus, Celsus, and Sydenham, were the medical Authors; and Vessalius, Eustachius, Morgagni, and Ruysch, the Anatomical; Newton, BACON, and Boyle, the Philosophical Authors, which he most admired and esteemed;) nor did he neglect or omit any thing that was valuable or useful, that was to be found in the Works of any other Authors: From this Fund of Knowledge, and his own continued accurate Observations on the Air, Diseases, and Nature, and what she really did, HE formed, by the Assistance of just inductive mechanical Reasoning, that excellent, most valuable, and true Theory of Medicine, the Heads of which he has left us in his *Institutiones Medicæ*; and by observing Nature, and Reasoning truly according to that Theory and Nature, he formed his no less valuable, judicious, and most excellent Method of Practice, in most Diseases, the Heads of which HE has also left us in HIS incomparable Book of *Aphorismi de Cognoscendis et Curandis Morbis*. By these Methods, and with these great Abilities, he made more useful Discoveries, and greater Improvements in the medical Science, than any Physician ever did since the great Hippocrates.

His Method of Reasoning, and the many great Improvements which he made, both in the Theory and Practice of Physick, may be seen and better understood, by attentively reading his Lectures, which he gave upon those two excellent Books, his *Institutiones*

Institutiones Medicæ, et Aphorismi de Cognoscendis et Curandis Morbis; *ut et* Prælectiones de Morbis Nervorum; which were all taken from HIS Dictates, in Short-hand, and published since his Death; the first by the learned Dr. Haller; and the second by the learned Baron Van Swieten; and the last, on nervous Diseases, by the learned Dr. J. Van Eems at Leyden, this present Year: In which he has clearly demonstrated what Diseases are truly nervous, and that some others which are usually called so, are not truly so: A Subject which was very much wanted, as no one ever had treated on nervous Diseases, so clearly, elegantly, rationally, and truly before. There are several other Treatises, which have been injuriously and falsely published in his Name, which gave him much Concern, as they are very erroneous, and contain many false Hypotheses and Assertions, which may lead those who read and follow them into various Errors.

It was thus, and by these Means, that the great HIPPOCRATES, SYDENHAM, and BOERHAAVE, made all their Discoveries and Improvements in the healing Art: And it has been by the same Means, viz. by making accurate Observations, judicious Experiments, assisted by just inductive Reasoning, conformable to Nature, that all medicinal Knowledge has been obtained, and all the Discoveries and Improvements therein have been made; and it is by the same Methods only, that it must and can be yet further improved, and brought to greater Perfection.

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It is well known, that many fine Hypotheses, and pleasing plausible Theories, on various Diseases, have been invented and formed in various Ages, and especially within this last Century: Such of them as are perfectly consistent with Truth, and conformable to Nature, let us embrace, and strictly follow them; and such as are imperfect, yet have some Congruity with Nature and Truth, let us endeavour to improve and perfect them; but such as are only hypothetical, let us entirely reject them: And I sincerely wish, that the Number of the first were more than they are; let us therefore endeavour to add to and increase them, by producing more such as really are so.

Having thus spent some leisure Hours in collecting this Account of the Methods and Means by which all medical Knowledge has been obtained and improved, and carefully remarked those Methods which have hindered the Progress of its Improvement, I laid it aside, purposing to leave it as a posthumous Treat; but some Persons of Distinction and Learning, happening by chance to see it, were pleased to think it contained some Things which are both new, and would be useful, especially to young Physicians, as it might both instruct and prevent their falling into the Empirical Method of Practice, now so much in fashion; therefore they desired that I would publish it now; wherefore I now comply with their Request, and wish it may either be useful to that Purpose, or that it may excite others to make further Improvements

ments in the medical Science: And in order to that, I have endeavoured to place all those Methods which always have, and ever will, lead young Physicians into Mistakes and Errors, in a clear Light, so that they may see and avoid falling into them; as also to explain and shew those Methods by which all medical Knowledge has been obtained and improved, that he may diligently pursue them, and further improve the Science, after he is in Practice; for which we suppose him fitly qualified, by his being well instructed in Anatomy, Botany, Chemistry, Pharmacy, Geometry, the Mathematicks, Experimental and Natural Philosophy, and well acquainted with the Works of Hippocrates, Celsus, Sanctorius, Sydenham, and the Theory and Practice of the truly great Boerhaave; and still the better, if he is well acquainted with the Works of all the best of the other ancient and modern Authors herein mentioned: It will enable him to make his Observations on the Air, the Weather, and Diseases, their Symptoms, and the Effects which they have on the human Body, more judiciously; and from them, and a true Knowledge of the Structure, Use, Office, and Action of the different Parts of the Body, assisted by clear and just inductive Reasoning, they will enable him to investigate and know the true Causes, and the Manner of the Production of Diseases, agreeably to the Actions of Nature; and then by accurately observing what Nature does, and indicates to be done, he will be enabled to form a rational and true Theory of Diseases,

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cases, and a judicious Practice, and to know both when and how he should assist Nature, agreeably to her Intentions, in the most successful and satisfactory manner, as the great Hyppocrates, Sydenham, and Boerhaave did; and by which the medical Science, and its true Practicè, may be still further improved, and brought to a State of greater Perfection.

In this Inquiry I have spoken my Sentiments with that Freedom, which every Inquirer after Truth and Knowledge should speak; and have justly blamed and condemned all false hypothetical Theories, and all Empirical Practice, as they are injurious to Mankind, without any indecent Language, or personal Reflections upon any one, as I only condemn the wrong Empirical Practice, not the Men; and altho' such Practice, and the Craft of Physick, may be gainful to those who use them, they never can be truly satisfactory, nor gain those who practise them, a lasting good Name.

As this Tract was collected and written at different Times, there probably are some unnecessary Repetitions in some Parts of it, (as the same Sentiments will recur to the Mind) which might be avoided, if I had Leisure to transcribe it again, and the Diction and Language might thereby be rendered more concise and elegant; or might have been so, if I had paid more Attention to that; but as the Intention of Writing, as well as Speaking, is, that they may be understood,

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I was more attentive to Reasoning truly, and expressing my Sentiments plainly, intelligibly, and agreeably to Truth, than how to say Things elegantly and prettily, though the latter may be more admired by some superficial Criticks and Pedants, than the first: And if what I have said is but intelligible and true, and carries so much Conviction with it, of its being so, that it may induce some others to pursue those Methods of improving medicinal Knowledge, which are herein recommended; or if it contains any thing that is either useful or new, which may contribute something to its Improvement, or may be the Means of exciting some other Physicians to make any further Discoveries or Improvements in the medical Science, which may be useful to Mankind, I shall not think my Time and Labour lost.

And as FIRE is such a very material Agent, and is so necessarily and considerably employed by Nature, both in performing all the Functions of Life, and in the Manner of producing, and the Methods of curing various Diseases, I have added a Section to the latter End of this Tract; wherein I have endeavoured to explain the Manner of Fire's acting on the human Body, in producing all those Effects, according to its peculiar Laws of Motion.



A N
I N Q U I R Y
Into the METHOD of improving
MEDICAL KNOWLEDGE.

S E C T. I.

On the first Rise of Medical Knowledge.

WHEN we attentively examine the Nature and Construction of the human Body, and duly consider the various Functions of Life which it continually performs, and observe the several Changes which it every Moment undergoes by them, we may clearly see, that such is its Structure and Mechanism, and such are the Materials of which it is composed, that its DIVINE CREATOR only intended it to subsist for a determinate Time, and that it must at last unavoidably be so changed, as
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to be finally dissolved by Death^{*}; and that
such a Change is every way the best adapted
for the Well-being and Happiness of Man,
in those States which INFINITE WISDOM
intended him to exist in.

And seeing that the human Body is thus
so wonderfully formed, that it must un-
avoidably undergo those Changes, and is
also liable to Injuries and Accidents which
produce Diseases, and Death at last: And
as both Diseases and Death are usually at-
tended with Pain, that Pain may not only
serve to remind Men of that final Change,
which they must unavoidably undergo, but
is also a Means to induce them to seek for
some Remedy to remove that Pain, as well
as to endeavour to prevent their Dissolution
by Death for a Time.

We may therefore very reasonably sup-
pose, that even the very first Generations
of Mankind, as rational Beings, in whom
the Principle of Self-preservation was im-
planted, were induced by the Sensation of
Pain and Sickness, to seek for some Reme-
dies to remove that Pain, and to relieve or
cure that Sickness, with which any of them
were at any time afflicted, as well as to
prevent their Dissolution by Death.

And

^{*} Corpus bene sanum, per Actiones a Vita Sanâ insepara-
bilis sensum ita mutatur, ut tandem Mors senilis accadat inevi-
tabilis. Boerhaavii Init. Med. Sect. 1053.

And inasmuch as even the first Men must have observed, and found by Experience, that their Food and Drink did not only entirely remove, and for a time relieve them from that acute Pain which is caused by Hunger and Thirst, but that they were also the Means of supporting and continuing Life, and so of preserving them for a time from Death. And as their Food, during the first Ages of the World, was taken from and chiefly consisted of Vegetables, and their Fruits and Seeds, with the Addition of Milk from their Flocks, and Water was their drink, which they found always did relieve them from that Pain which was caused by Hunger and Thirst; it is reasonable to suppose, that when they found themselves afflicted with Sicknes or Pain, either from Wounds, Hurts, or Diseases, that they were induced, by the Experience which they had of being so relieved from the Pain of Hunger and Thirst, by their Food, to make a Trial of those or some other Vegetables, and such other Things as Reason dictated to them for that Purpose, either by taking them internally, or applying them externally, or both, in order to remove their Pains or Sicknes; and most probably they tried many Things, till they found such Things as answered their Purpose. And how far INFINITE GOODNESS, who had created all Things, and had bene-

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ficently endowed various Plants with different *healing Virtues* for those benevolent Uses, might condescend to influence their Choice of those Plants, or other Things, which were endowed with such Virtues, I shall not take upon me to determine. But that the first Race of Men, or the first Inventors of the *healing Art*, were so influenced and directed by the DEITY, in their Choice of such Things, was the general received Opinion of the wisest and greatest Men among the Ancients of most Nations, both *Jews*^b and *Heathens*^c. And when they found any thing, or Medicine, that relieved their Pain, or took off their Sickness, and cured their Disease, they carefully preserved the Remembrance and Knowledge of those Things, which they had so obtained by Observation and Experience, and of their Virtues, and the Methods of using them, and communicated that Knowledge to others. Thus they preserved and communicated by Tradition, such Knowledge as they so obtained by Observation and Experience, of such Things as had been the Means of removing their Pain and restoring their Health, that others might receive the same Benefit from them.

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^b Moses in Exod. c. 36. v. 12.

^c Plinii Hist. Nat. L. 25. C. 2, 3. Deorum immortalium inventioni consecrata est Ars Medica, Cicero Tusc. Quest. L. 3. And in another Place he says, Homines in nulla re propius ad Deos accedunt quam in Salutem Hominibus dando.

This most probably was the very first Beginning of their Attempts to cure Diseases, and the very first Rise of the Medical Art; and was then only founded upon a few simple Observations, and no less simple Experiments, which they occasionally or accidentally made in an empirical Manner. For as the Causes and Nature of Diseases were in those early Ages entirely unknown, we must suppose that their Observations were simple and inaccurate, and their Experiments various and uncertain; and that they often made many Trials, and used various Methods and Things, especially in some Cases, before they could either remove their Pains or cure their Diseases; and consequently the Progress of their Knowledge of Diseases, and how to treat and cure them, must have been very slowly obtained; and even after several Ages had passed, it only consisted of knowing that such a Plant, or such a thing relieved such a Pain, and such a Medicine removed such a Sickness, or cured such a Disease; without either knowing what the Disease really was, or how their Medicines cured it, and was truly empirical. However, when they chanced to find any thing that was successful, they carefully preserved what Knowledge they had so experimentally acquired of any Remedy, Method, or Medicine so discovered, and by which they had been

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at any time so relieved or cured, and communicated what Knowledge they had of them to others, that they might receive the same Benefit from them.

But as the Inhabitants were few in the first Ages, and were dispersed into different and distant Parts of that Quarter of the Earth which was then inhabited, probably to seek their Food among the Trees and Plants of the Earth; and as their Diet was simple and plain, and consisted chiefly of Bread, Milk, and a few simple Preparations of some mild salutiferous Herbs, and the most wholesome pleasant Fruits, and probably some Roots, and sometimes a little animal Food after the general Deluge, and their Drink was generally only pure Water; so their Diseases most probably were as simple and few, and were not so frequently seen or met with; therefore it required a longer time to gain any tolerable Knowledge of those few Diseases, and a much longer time to gain a sufficient experimental Knowledge of the Methods of curing them: So that although Men began in the most early and most ancient Ages to use the best Means they had, and to apply the best Remedies that they knew to relieve themselves from Pain and Sicknefs, yet the Progress of their medical Knowledge, and the Art of curing Diseases, was but very slow for many Ages; so that many Centuries
passed

passed before it could be properly called an Art, or before any particular Men professed it as such, as we shall see.

The most ancient Historians^d that are come down to our Hands, make the first *Kings* and *Princes* of the most ancient Nations, to be the first Inventors and Practisers of the medical Art; as, *Bacchus* King of *Assyria*, supposed to be the *Noah* of *Moses*; *Hammon*, or *Ham*, and his Son *Thoth*, Kings of *Ægypt*; *Zoroaster*, or *Zaradusht*, King of *Bactria*; and several others: But as the Works of several of these ancient Historians are now lost, and we only have some short Fragments or Quotations from them, and some of the others only give us a short Account of such Things as Tradition had brought down to them, especially those relating to the Invention of *Arts* and *Sciences*, we have nothing certain concerning the true Origin of them.

And as the Diet of the People of the first Ages was simple and plain, and Water their drink, their Diseases were simple and few; and therefore were more easily cured, either solely by the Efforts and Operations of *Nature*, without the Assistance of *Art*, or when that Assistance was necessary, they were more easily carried off, and cured by the Help of a few simple Medicines or Ap-

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plications,

^d Manethon, Berosus, Diodorus Siculus, Herodotus, Ælian, Strabo, Mochus, Sanchoniathon, Hestiazus, Josephus, &c.

plications, than they were afterwards, when Diseases were increased and more complicated by the various Inventions of Luxury. That the Diet of those first Ages was thus simple and plain, is allowed by all the most ancient Historians ^e that we have; and this plain Diet is also said by *Moses* ^f to have been the Food of all Mankind before the general Deluge, and probably was the most fit for continuing that State of Longevity, which those primitive Generations are said to have attained to in those eastern Nations ^g: Which Longevity is generally allowed to be true by most, or at least by many of the most ancient *Heathen* Historians ^h and some of their Poets ⁱ, whose Works (or any Account of them) are come down to our Hands, which shews us the Wholsomeness of that plain Diet. We are likewise told, that the Ancestors of the *Greeks*, and several other barbarous Nations, who are said to be descended from *Japhet*, and were the first People that came into those distant Countries, either being too indolent to cultivate the Land, or not bringing with them proper Instruments for Agriculture; or what is more probable, they did not meet with

^e See the Historians last mentioned. ^f Genesis, c. 3. v. 18. ^g Idem, c. 5. ^h See Josephus, who saw the original Works of several Historians, which are now all lost, except a few Fragments; as, Berosus, Manethon, Mochus, Sanchoniathon, Heliæus, and Jerom of Egypt, &c. ⁱ See Hesiod, and some Passages in Homer, and the other Poets.

with the same Fruits in those colder Countries, which they had been accustomed to find and eat in the warmer, from whence they came; such as *Dates*, *Figs*, &c. which are much esteemed and eaten as Food in those Eastern warm Countries even to this Day; wherefore they fed upon such Fruits as they could find, and the Country produced: Hence we are told, that the most ancient *Grecians*, and some other Nations,
 “ Ranged over the Fields and Woods in
 “ search of Food, as the Beasts did, eating
 “ any wild Herb that they could find, and
 “ such Fruits as the Trees produced of
 “ their own accord ^k. *Ælian* also tells us ^l,
 “ that the Diet of the first Race of Men
 “ differed according to the different Pro-
 “ ductions of their respective Countries;
 “ the *Athenians* lived on *Figs*; the *Argives*
 “ on *Pears*; and the *Arcadians* on *Acorns*.”
 Hence the last were called *Βαλανηφάγοι ἄνδρες*,
Acorn eaters, by the Oracle ^m. And both
Hippocrates ⁿ, *Celsus* ^o, and *Galen* ^p, confirm
 the Truth of it; and we find that these
 Fruits, with Bread and Milk, and some
 simple Preparations of Seeds and mild
 Herbs, were the plain healthful Food of
 the People for many Ages after; and we
 are

^k Diodor. Sicul. Bibl. Histor. L. 1. Sec. 8.

^l *Ælian*.

Hist. Var. L. 3. Cap. 39.

^m Herodot. Clio. Cap. 66.

ⁿ Hippoc. de Prisca Medicin. p. 9. Ed. Foe.

^o *Celsus*

in Præfat. p. 2.

^p *Galen* de Aliment. Facult. L. 2.

Cap. 38.

are told that there are several Nations in the inland Parts of *Africa* now, who chiefly live upon Dates.

But after Men found out the Method of cultivating the Land; sowing Corn, planting Vines, &c. and of making Wine, and several other fermented spirituous Liquors, and they with various other Inventions of Luxury, were gradually introduced into the Diet of several Nations, they not only much increased those few simple Diseases which they had before, but they also generated various other new Diseases, which were unknown to the former more temperate Ages, and rendered both of them much more difficult to be cured. And as these new Inventions of Luxury continually increased, they introduced various other Customs and Irregularities, which as continually increased and multiplied Diseases; so that it was necessary both to find out new Medicines, and invent new Methods of treating and curing both the Diseases which were known before, and were now become more violent and more difficult to be cured, as well as to cure those new Diseases which were not known before, which rendered the Improvement of medical Knowledge more difficult and slow.

And as all Men were entirely ignorant of and unacquainted with the Structure of the human Body, and how the several Functions

Functions of Life were performed, and consequently how the Performance of any of those Functions was injured or obstructed, either by internal or external Causes, they consequently were as much at a loss to know either what the Nature, the Causes, and the Manner of the Production of Diseases truly were; therefore they must be no less ignorant of the right Methods of treating and curing them: And those who first began to practise Physic, or rather to give a few Medicines for some Diseases, had no other Foundation to practise upon, and no other Reasons for their giving them, than as they had found by Experience, that taking, or giving such a Plant, or such a thing prepared in such a manner, or applied in such a Method, relieved such a Pain, removed such a Sickness, or cured such a Disease; just as the good old Women have done ever since; without either inquiring into the Nature of the Disease, or knowing its Cause, or from whence it proceeded; or how, or why those Medicines they administered, cured it; and most probably, often without knowing what the Disease really was; as Quacks have done ever since, and now do. So that the Practice of Physic in those early Ages was entirely empirical, and continued to be so not only to the time of *Æsculapius*, but near

12 *An Inquiry into the METHOD of*

700 Years after, to the time of the great *Hippocrates*.

And we find that the Methods used to obtain the Knowledge of this simple *empirical Practice*, were at first as simple as the Practice itself; only simple Experience, without accurate Observation and inductive Reasoning, which last were first introduced into Practice by *Hippocrates*. Although we must confess, that the History of the first Rise of that empirical Practice is very much in the dark, as we only have a few Fragments and Quotations from those ancient Historians^a by some other ancient Historians^b since them: Who tell us, that the medical Art was first invented by THOTH in *Ægypt*^c, who was the TAT or TAAUTUS of the *Æthiopians*, the HERMEES TRESMAGISTUS of the *Greeks*, the MERCURY of the *Latins*, and the PATHRUSIM of *Moses*^d, the Grandson of *Noah* and Son of *Ham*; others say he was *Ham*^e: And he is said to have written 42 Books; six of which he wrote for the Use of the *Pastophores*, a sort of *Priests*, who also practised
Phyfic

^a Manethon, Perofus, Mochus, Sanchon'athon, Hestiaeus, and Jerom of *Ægypt*, and some others, whose Works were probably all consumed at the Burning of the famous Alexandrian Library, by the Saracen General Amron Ebnol Aas, A. D. 642. Abulpharag. Hist. Dynast. p. 114.

^b Diodor. Sicul. Strabo, Ælian, Herodotus, &c.

^c Dr. Le Clerc Hist. de la Medicin. p. 8, 12.

^d Dr. Bedford's Script. Chronol. Shuckford's Connect.

^e Dr. Le Clerc, Ibidem, p. 13.

Physic in *Ægypt*; as *Thoth* was the *Ægyptian* *Æsculapius*, and these his Priests.
“ The first Book treated on the Structure
“ of the Body; the second on Diseases; the
“ third on necessary Instruments; the fourth
“ on Medicines; the fifth on the Diseases of
“ the Eyes; and the sixth on Womens
“ Diseases ”.

These were the first Books, and this the first mention we have of Writing; and it is supposed that they were ingraved upon Tiles, as neither Paper nor Parchment were then invented, nor till many Years after; though some have supposed that they were written upon Skins, though the Method of making them into Parchment was not found out till many Years after by King *Pergamus*: But it is most probable that they were ingraved upon Tiles in Hieroglyphicks, or sacred Characters, as *Eusebius* tells us from *Manethon*, that *Thoth* also erected Columns in *Ægypt*, on which he ingraved in sacred Characters the Doctrine which he taught^x. And the same Historians also say the same of *Osiris* and *Isis*, the King and Queen of *Ægypt*, to whom *Thoth* was Secretary: But these Accounts are so uncertain, or fabulous, that we cannot depend upon nor draw any Conclusions from them. Though it is probable, that the most ancient *Ægyptians* were

^w Dr. Le Clerc. Ibidem, p. 13. ^x Euseb. Prepar. Evang. Dr. Le Clerc. Hist. de la Med. p. 13.

were the first that invented *Medicines*, and first cured some Diseases, and kept an Account or Record of such Diseases as they cured, and of the Medicines with which they cured them; so that both the *medical Art*, and the *Art of Writing*, as well as most of the other Sciences, were first invented in *Ægypt*, And in order that they might further improve their Knowledge in the Art of curing Diseases, the *Ægyptians* first, and then the ancient *Chaldeans*, and some other eastern Nations, introduced the Custom of bringing their sick and diseased People out of their Houses, and placing them in the most convenient manner in their most public Streets and Highways, that those who passed by might communicate to them the Methods and Medicines by which either they, or any of their Acquaintance, had at any time been cured of such a Disease as they saw any of the Sick placed there were afflicted with ¹.

And *Herodotus* tells us ², that the ancient *Babylonians* obliged themselves by a *Law* to place their Sick in the same manner, both that they might thereby obtain a Cure for their Disease, and that they might improve their medicinal Knowledge by such Experience, and he calls it νόμος σοφώτατος,

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¹ Diodor. Siculus Bibl. Hist. L. 1. Sec. 3. Ælian. Hist. Var. L. 3. Cap. 39. Strabo Geogr. L. 14. p. 972. ² Herod. Bibl. Hist. L. 1. Cap. 197. Chio.

a most prudent Law. We also find that the same Custom was practised in *Palestine*, down as low as the Beginning of the christian *Æra* *. But whether this Custom was used in *Greece*, or not, we are not informed; however, we find that when any extraordinary Cure was performed in any remarkable Disease, especially in those Parts of *Greece* near *Coos* or *Epidaurus*, they usually put up a Table against the Walls of the Temple of *Æsculapius*, who was worshipped as a Deity at both those Places by the superstitious *Greeks*, for inventing the Art of curing Diseases; upon which Tables they described the Disease, and the Method or Medicines with which it was cured; that those who came there to seek for a Cure might be informed, either by reading them, or by the Priests, how to cure themselves, or their Friends, if any of them had the Misfortune to be afflicted with any Disease which had been cured, and was described and recorded there. And this Custom is said to have been practised in *Greece*, from the time of *Æsculapius* down to the Days of *Hippocrates*, who was the eighteenth in a lineal Descent from him by his Father, and the nineteenth from *Hercules* by his Mother ^a; a Space of about seven hundred

* New Test. ^a *Soranus* says the 10th from the one, and the 20th from the other. *Hippocr. Operat. Fœtii Ed.* p. 1297.

hundred Years; and *Hippocrates* lived about four hundred and fifty Years before *Christ*.

Although both *Celsus*^b and *Galen* tell us^c,
 “ that *Æsculapius* was the first that rescued
 “ *Physic* from the Hands of the Vulgar,
 “ and rejecting the superstitious and insignificant Part, adhered to the solid and
 “ useful Part.” It is true he may be said to have done the first, but yet he did not divest it entirely of the superstitious Part, since we find that Amulets, Charms, and Incantations, and such foolish Practices, still continued to be in use, both in his Time and in the Time of his Successors, so long as the Practice of it was in the Hands of his *Priests*, even to the time of *Hippocrates*, who wisely rejected all such insignificant and superstitious Practices. However we may say, that *Æsculapius* was the first that introduced the *Medicina Clinica*, or the Practice of visiting the Sick in their Beds; and the *Medicina Gymnastica* also, or prescribing the Use of Exercise in the Cure of Diseases. And first began to make Observations on Diseases, and their Symptoms, and to distinguish them from each other by their peculiar Symptoms; also to observe what Medicines he found to be the most efficacious in curing each of them; all which were considerable Improvements in the medical Art at that Time; for which,
 and

^b Celsus in *Præfat.* p. 1, 2.

^c Galen in *Medic.* L. 1.

and the great Skill that *he* shewed in curing the Sick and Wounded in the *Argonautic Expedition*, he was deified by the idolatrous *Greeks*, according to the Fashion of those Times. And his Sons *Podalirius* and *Machaon* gained great Reputation at the Siege of *Troy*, about 50 Years after, and about 1100 Years before the Christian *Æra*; but their Practice at that Time seems to have been chiefly employed in Surgery.

But, although *Æsculapius* is said to have been the first that prescribed Exercise^d of different Kinds to his Patients in different Diseases, yet it must be allowed that *Herodicus*, who was one of the Masters of *Hippocrates*, greatly improved and established it as an *Art* to preserve and restore Health, under certain Rules, which are now all lost: Some say that *he*, but others say that it was *Prodicus*^e, that carried this Practice of Exercise much too far, and that to the Prejudice of the Sick, as he is said to have prescribed it in the Cure of Fevers, which it must increase, and did much hurt, and for which *Hippocrates* blames him much^f.

The learned Dr. *D. Le Clerc* has, with much Labour, ingeniously collected an Account of many other eminent Men among the *Ancients*, both *Kings*, *Princes*, and
C *Philosophers*,

^d Galen de Sanitat. Tuend. Lib. 1. cap. 8. ^e Hippoc. Epidem. Lib. 6. if that Book be his; some suppose it was written by his Son *Theffalus*, who was acquainted with *Prodicus*.
^f Idem, Ibidem.

Philosophers, who are said either to have invented or considerably improved the *medical Art*, many Years, or Ages before the *Grecian Æsculapius*; as *Osiris* and *Isis* his Queen, *Horus* or *Apollo*, *Athotis* and *Tosorthos* Kings of *Ægypt*, *Solomon* King of *Israel*, *Zoroaster* King of *Bactria*, and *Cinningo* and *Hoamti* Kings of *China*; the *Dryids* in the West-part, and the *Gymnosophistæ* in the Eastern-parts of the World, who are all said to have been the Inventors or Improvers of *Physic*, and many others; as *Chiron Centaur*, *Hercules*, *Ulysses*, and many more before the time of *Æsculapius*; and after him *Thales*, *Pythagoras*, *Heraclitus*, *Democritus*, *Plato*, *Empedocles*, *Pausanias*, *Epicarmes*, *Timeus*, *Acron*, *Apollo-nides*, *Antigenes*, and *Herodicus*, with several more, who lived after *Æsculapius* and before *Hippocrates*, who are said to have studied and improved the medical Art; but as all the Accounts that we have of the former of them, are so uncertain and fabulous, and the others so short and imperfect, I shall pass over them, and refer the curious Reader to the learned and ingenious History of Dr. *Le Clerc* *, since we have not any of their medical Works that are come to our Hands.

It has been said, that *Pythagoras* was the first that introduced *Philosophy* into the
Theory

* *Histoire de la Médecine*, a p. 1. ad p. 112.

Theory of Physic *: But if he did, as he neither practised, nor has left us any medicinal Treatise in either the Theory or Practice of it, we do not certainly know what his Sentiments were, or how far the *Theory* of Medicine, which he formed, was influenced by his Philosophy: Tho' from what *Celsus* says, both *he*, *Empedocles*, and *Democritus*, did sometimes apply themselves to the *Medendi scientia* †; but we have none of their medical Works, from which we can form any Judgment what their Sentiments either in the Theory or Practice of Physic truly were. He lived about eighty Years before *Hippocrates*, and it is very probable that some of his philosophical Principles, or at least those of his Scholars, were soon after introduced into the medical Art ‡: But the *Æsculapian* Family seem to have pursued the Method of making Observations on Diseases, and their Symptoms, and administering such Medicines as Experience had instructed them to give, and they had found to be successful in the empirical Method of Practice, without any philosophical Reasoning, or much *Theory*, till *Hippocrates's* time.

That this was the State of Physic from its first Rise, or at least from the Days of

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Æsculapius,

* *Celsus de Medicina Præfat.* p. 2.

† *Idem. Ibid.*

‡ *Vide Dr. Le Clerc. Hist. de la Méd. Part I. Lib. 2. cap. 4, 6. and Clifton's State of Physick, p. 8.*

Æsculapius, down to the time of *Hippocrates*, may be collected from History ^a, and from his own Words ⁱ. Let us therefore inquire how, and by what Methods that *Father of Physic* did so much improve that *empirical Practice* of his Ancestors and Predecessors, so as to bring it in so short a Space of Time, as in one Age to be a real *medical Art*, and to be able to establish it as such; and then let us inquire by what means it has been further improved by other Physicians since his Time to this. Also let us inquire what other Methods have at any time been taken by any Physicians since, which have any way hindered the Progress of its Improvement, that we may hereafter carefully avoid falling into the same, and as diligently pursue the other, and still further improve that most *ancient Science*.

We find then, that this FATHER AND PRINCE OF PHYSICIANS, being a Man of great Penetration and sound Judgment, and endowed with much Learning, and all the Qualifications and Abilities necessary to improve that *Art*, which he applied with indefatigable Industry, to carefully observing Diseases, and all their Symptoms, and their Progress and Effects; and then to diligently collecting every thing that was any way useful or instructing in the *healing Art*,
from

^a Le Clerc. *Hist. de la Medicaine.*
Medicina.

ⁱ Hippoc. de *Prisca*

from the above mentioned Tables that were placed in the Temples of *Æsculapius* at *Coos* and *Epidaurus* *, or from the Accounts and Observations which his Ancestors had made and left behind them to him: From all these he collected every thing that was useful, either to the Means of truly knowing those Diseases that were described in them, or the Symptoms which distinguished them from each other; and also what related to the Methods which had been successful in curing them, or were useful in predicting the Events and Consequences of them. He also accurately observed all the material Changes of the Air †, and the different Points of the Heavens the Winds came from, and the Changes of the Weather that attended them; and even took notice of the rising of several of the celestial Constellations, as of *Arcturus*, the *Pleiades* ‡, &c. not with any superstitious or imaginary Notions of their having any Influence over the human Body in the Production of Diseases, as some of the ancient and more modern Astrologers imagined, as he was free from all such Superstition ¶; but to denote the different Seasons of the Year, and the Changes of the Weather, which

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usually

* Vide *Coacæ prænotio*. Lib. *Prænotion*. 1. *Prædict*. 11.
 † *Hippoc. de Morb. Epidem.* Lib. 1, 2, 3, &c. et *de Aere, Aquis et Locis*. ¶ Vide Lib. citat. et in *Aphorism* Sec. 3, 4. ¶ De *Morbo Sacro*, p. 301. ed. *Fœtiii*. De *Morb. Vulgarib.* et in *Aphorif.* Sec. 3, 4, &c.

usually attended those Seasons, and the Influence which those Changes of the Weather had on the human Body, either in the Production of, or in the Changes that happened in the then reigning epidemical or other Diseases. *He* likewise observed ° the different Natures or Qualities of the Waters of different Springs or Wells, and the different Nature of the Soil from whence they did arise, and even the different Points of the Heavens towards which they did rise, and the Effects which the Rising-sun had on them; and judiciously observed the Situations of Cities, Towns, and Places, as they were more or less healthfully situated; and as carefully observed how those different Situations either caused or any way influenced the Production of any endemial or other Diseases, and what Diseases they did produce †: And from all these *he* was enabled to judge what Situation was bad or injurious to its Inhabitants, and which were, or might any way contribute to the Preservation, or the Restoration of the Health of the Inhabitants, or others; also what Diseases were endemial to them.

And by accurately observing all those Diseases that were epidemical in the *Grecian* Islands, where he lived, or came to visit the Sick, and diligently observing and distinguishing

° De Aere, Aquis et Locis, et in Epidem.
Ibidem.

† Idem.

guishing all their different Symptoms, and how they differed, both in different Years and in different Seasons of the same Years, *he* was not only enabled to know, and clearly distinguish all the different epidemical Diseases from each other, and to give each of them their most proper Names, but to describe them and their peculiar pathognomonic and diagnostic Symptoms^q, so that they may be known by Physicians when seen: Also in the same manner, and by the same Method of carefully observing, he discovered and accurately distinguished and described all malignant and pestilential Fevers, and investigated their different procatactic Causes^r which produced them. Thus by continued accurate Observations, and just inductive Reasoning, *he* investigated their Causes, and acquired a true Knowledge of the Natures and the Manner of the Production of all those Diseases; and was the first that thus carefully distinguished them by their peculiar diagnostic Symptoms, and *he* so accurately described them, that they are very well known by all real Physicians, when they meet with them in their Practice, even to this Day.

He not only did this, but what is as much useful and advantageous to his Followers, he did by diligently watching and carefully
C 4 observing

^q Vide de Morb. Vulgarib.
et de Morb. Epi.^o m. in variis locis.

^r De Aere, Aquis et Loc.

observing all the Motions and Actions of NATURE*, and what *she* did, or endeavoured to do, and those salutiferous Effects which *she* really did frequently produce; *he* wisely judged, and clearly saw, that *she* did thereby indicate to the Physician what he should, or ought to do, in each of those Diseases, in order to assist *Nature*, agreeably to *her* Indications and Intentions, in the most effectual manner to carry off and cure all

* So many different Ideas or Meanings have been connected to the Word ΦΥΣΙΣ, *Nature*, by Physicians and Philosophers, that an ingenious Gentleman of much Leisure, said he had collected above sixty somewhat different Meanings it has been used to convey by different Authors. But by the Word NATURE I shall here always mean some, or all those internal Motions and Actions in the Body, which are not influenced or directed by the Will; as the peristaltic Motion of the Stomach, Intestines, and chiliferous Ducts, the Motion of the Heart and Arteries, and the Circulation of the Fluids, and the Action of Respiration; by which Chyle is prepared, carried into, mixed with, and changed into Blood; the Secretion of the Fluids, and Application of nutritious Juices; the Excretion of the excrementitious Fluids, and the Discharge of them, and of any other offensive morbid Matter with them, is performed without the Influence and Power of the Will.

Or in other Words, all those internal Motions and Actions of and in the Body, by which all the Functions of Life are performed, and by which the Causes of Diseases are carried off and cast out of the Body, without the Command of the Will or Mind.

And this is the Sense or Meaning which *Hippocrates* used the Word Φύσις in; altho' the Circulation of the blood, and how the different Functions of Life were performed, were not then known: Yet he says, Φύσις ἐκφέρει πάντα νόσων, *Natura omnia omnibus sufficit*, Lib. de Alimento, p. 38. And in Lib. de Morbis Vulgar. L. 6. Sec. 5. §. 2. he says, Ἀπαίδευτος ἡ φύσις ἐδoξα ναιὶ μάδοδα τα δεινὰ νοσήει. *A nullo quidem edocta Natura, citraque disciplinam, ea quæ conveniunt efficit*. And in another Place he calls *Nature, the Aggregate of all Things which concur to perfect Health*.

all those Diseases; and *he* was thus instructed by *Nature* how to cure Diseases! It was by thus diligently observing and accurately distinguishing all the various Symptoms, that *he* discovered the different Natures, Tendencies, and Dispositions of all the different Kinds of Fevers, and of all other Diseases, both acute and chronical: And by as diligently observing the Progress of each of them, and the various Changes which were produced in them, and the different Attempts and Endeavours which *Nature* made in each of them, to carry off the morbid Matter, and discharge the malignant Cause which produced them, and by thus carefully observing, he saw how and by what Evacuations *she* did at the last carry both them and their malignant Causes intirely out of the Body: Thus he was enabled both to investigate their Causes, and the right Methods of treating and curing them, by the Assistance of just inductive Reasoning; the Truth of which he always confirmed by repeated Observations and Experience. And thus *he* was enabled to form all those judicious Rules, and those wise and excellent Methods of treating and curing Diseases, which he has left us in his valuable Works, tho' he has not often given us the Names, or the Form of his Prescriptions or Medicines, but how and when we should give them that will vomit, purge, &c. And
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if we inquire how he made all these great Discoveries and Improvements, in the *medical Art*, and how *he* could so investigate the Causes of Diseases, without knowing more of the Structure of the human Body, the Use, Office, and Action of its various Parts, and the animal Oeconomy, better than they really did know at that time; we find that *he* did this chiefly, if not solely, by making accurate Observations on Diseases, their Symptoms, Progress, and Effects, and on the Variations in the Air, Seasons, &c. And by observing what *Nature* did, or indicated to be done, and then by strictly following her Indications, and by reasoning from those certainly known Facts, *he* both investigated the true Causes of Diseases, and discovered a truly rational and judicious Method of treating and curing them; and yet *he* did this, and proceeded much further in those *his* Discoveries, and made much greater Improvements in the *healing Art*, than we can almost think it was possible for the human Mind to proceed, without the Knowledge of the *Circulation of the Blood*, and the *Laws of Motion of Matter*, and the *Laws of Motion of Fire*, and a more perfect Knowledge of the *animal Oeconomy*, than they in that Age really had. Some Physicians may probably think that I here make that great *Prince of Physicians* discover and know a great deal more than
he

he really did; but whoever will take the Pains to read over his Works, and examine them with as much Care and Attention as *he* did Diseases and Nature, will think thus of *him*, and will find that *he* did not only make these Improvements in the Method of knowing Diseases, and investigating their Causes, and laying down such judicious Rules, and such rational and excellent Methods of treating and curing them, as are found to be true, even to this very Day; but that *he* also made many other great Improvements in the several other Branches of the medical Art, as we shall see.

And although *Pythagoras*, *Heraclitus*, and *Democritus*, and some other Philosophers of that Age, had made some Branches of the medical Art their Study, and had endeavoured to introduce the Principles of their Philosophy into that Art, yet *Hippocrates*, who seems to have been well acquainted with their Philosophy, seems to have rejected it, and only reserved so much of their philosophical Principles, as enabled *him* to reason more justly and truly, in investigating the Causes and discovering the Methods of curing Diseases^a. Thus he first wisely joined so much of Philosophy to Physic, as was useful to improve it: And says^b, “*We ought to join Philosophy with*
“*Physic,*

^a Hippoc. de Morb. Mulier. L. 1. p. 613. ed. Fœtii, Lib. de Arte, et Natura Homin. ^b Hip. de Decenti Habit. p. 23. Ed. F. et Galen de Usu Partium.

“*Physic, and Physic with Philosophy, for a Physician that is a Philosopher is like a God.*” By which he seems to mean no more, than that true Philosophy enables Men to reason justly and truly, and thereby to discover the Reason and Cause of Things; and being joined to Physic, and properly used, enables Physicians to discover the Causes of Diseases, and the right Methods of curing them, by the Assistance of just Reasoning; the doing which, and restoring Health to those that were supposed to be dying, was in those Days esteemed a godlike Action, as so wise and good a Man as he was could mean no more: And it is generally allowed, that *he* first introduced the Method of just Reasoning from real *Facts*, (not Hypotheses) into the *medical Art*, and joined that *Reasoning to Observation and Experience*.

It was by Observation and Reasoning that he saw that the human Body, from its first Rudiments to its Dissolution, was supported by and composed of Food, and consequently the *Nature of the Diet of Men* was of the greatest Importance, both to the Continuation, Preservation, and the Restoration of their Health; as an injurious and wrong Method of *Diet* might be destructive to both Health and Life, and that a suitable and right Method of *Diet* might greatly contribute to the Restoration of the one, and the Preservation

Preservation of the other; but more especially to those who are afflicted with *Diseases*, either acute or chronical. And as *Hippocrates* says, that he found “*that the Ancients had written nothing concerning Diet worth taking notice of*”. He therefore saw the Necessity there was for improving and regulating the *Diet* of the Sick, suitably to the Nature of the Disease; that he supposed it was one Cause of Mens studying the *medical Art*, and says ^d, “*One Cause which made it necessary to study the Art of restoring lost Health, was the great Difference to be observed between the Diet of the Healthy and that of the Sick.*” And as the *Ancients* had wrote nothing on that Subject, he therefore composed that excellent and judicious Treatise *de Victus Ratione in Morbis Acutis*. The Rules and Directions of which have been found to be so judicious and reasonable, and so well adapted to the different Times and Degrees of *Fevers*, that they have been generally followed by the Learned and Judicious in all Ages since to this Day, without any material Alterations or Improvements being made therein.

It was by carefully observing all the various Changes of the Air and the Weather, and Seasons, and as accurately observing all those

^c Ἄρα δὲ περὶ τῆς διαίτης οἱ ἀρχαῖοι ἐνέγραψαν ἑδὲν ἀξίον λόγου.
Hip. de Vict. Rat. in Morb. Acut.
^d Hippocr. de
Prisca Medicina, p. 9. Edit. Fœtii.

those Diseases which either accompanied or followed those different Changes, that *he* was enabled, by just inductive Reasoning, to investigate and discover the various different Causes of the several different Kinds of epidemical Fevers, and other Diseases. And by the same Method of carefully observing and accurately distinguishing all the different Symptoms which attended each of those different *Fevers* and Diseases, that *he* was enabled to clearly distinguish all those different Fevers and Diseases from each other, by their peculiar diagnostic and pathognomonic Symptoms: And then by as carefully observing the Progress, Changes, and the different Times of each of those Fevers continuing and coming to their ἀκμή καὶ πέρασμη, their Height and their Declension, and coming to their Κρίσις, *Crisis*, and all the different Symptoms which attended each of them, in each of those Changes and Times, and the Consequences and Effects which attended or followed each of them, he was enabled both to distinguish each of those *Fevers* and Diseases from each other, by their pathognomonic Symptoms, and to give to each of them its most proper Name (if it was not so named before) and by as accurately observing, at the same time, what *Nature* did, how she proceeded, what Attempts and Efforts she made, in order to cast the morbid Matter, which

which caused the Disease, out of the Body; and lastly, by carefully observing how *Nature* brought on those critical Evacuations, by which that morbid Matter and the Disease were carried off, and the Sick were restored to Health again; when she proceeded and acted in the most salutiferous manner; as also when and how she failed in producing those salutiferous Effects.

Thus he was instructed by Observation, how to know Diseases; and by *Nature* and just *inductive Reasoning*, conformably to *her* Motions and Actions, and what *he* really saw *she* actually did, both to know what *Nature* indicated to him to do, and how *he* should assist *her* agreeably to *her* Intentions and Endeavours, to carry off the Causes of Diseases, and cure them in the most safe, effectual, and salutiferous Manner, when and where it could be done.

And by the same Method of carefully observing what Symptoms and Effects were produced by *Nature*, in all the different Kinds of *Fevers*, as well as in other *Diseases*, both when she acted in the best and most salutiferous Manner, and carried off the Disease most effectually, and restored the Sick to perfect Health again; and what Symptoms were produced, and attended, when she failed in producing those good Effects, and when the Disease carried off the Patient: He was thus truly instructed by

by *Nature*, not only to predict the Recovery, or the Death of his Patients, but also how and when *he* should assist *Nature* to carry off and cure those Diseases: So that we may truly say, *he* was always instructed by *Nature*, who is in all Cases and at all Times the most safe, most certain, and sure Guide to the judicious Physician; if he has but the Diligence to observe, the Penetration to see, and the Judgment to know how, and the Honesty to follow and assist *her* right.

It is well known that there have been, and probably now are some Physicians, who are pleased to say that HIPPOCRATES had no *Theory of Physic*, or did not *reason upon Diseases*, in order to investigate their Causes and Manner of Production, or to find the right Methods of curing them; but altogether depended upon Observation and Experience, as the *Empiricks* did: But let such Physicians think or say what they please, whoever attentively reads *his* Works must allow that *he* had a *Theory*, and that it was a just and true *Theory* too, which was both founded upon and always conformable to *Nature*, and her Laws or Manner of acting, which he therefore calls ΚΑΤΑ ΦΥΣΙΝ ΘΕΩΡΕΩΝ, theorizing according to Nature*; and not reasoning from
imaginary

* Τοὺς δὲ ἀκαλαστάτους τῶν πυρετῶν ἰὰν μέχρις αὐτῶν κατασῶσιν, ὁκότες δὲ γῶσιν ἀπαντῆσαι διαίτη καὶ θεραπεία τῇ προσήκοντι, ΚΑΤΑ ΦΥΣΙΝ ΘΕΩΡΕΩΝ. Hip. de Vict. Rat. in Morb. Acut.

imaginary Hypotheses, as too many ingenious and learned Men have done since his Time.

That *Hippocrates* had a *Theory*, and did *reason*, and that very justly too, both in investigating the Causes of Diseases, not only those which are endemial, epidemical, and contagious, or pestilential, but others also, is too evident from various Places in his Works to be denied; although *he* has not so often favoured us with Specimens of his *Theory*, nor left us many Examples of his Method of Reasoning, either in *his* investigating the Causes of Diseases, or in his Method of discovering the most rational Methods of Dieting the Sick, nor yet in discovering the right Methods of treating and curing those Diseases; nor in drawing those Inductions and Conclusions, by which *he* predicted and prognosticated the Consequences and Effects of Diseases before they came to pass; but in general has only left us the Inductions and Conclusions which he drew from his Observations on the Air, on Diseases, and on *Nature*, and the Operations and Effects which she produced; yet it is very evident from those Deductions and Conclusions, which he has drawn from them, that he both had a *Theory*, and did *reason*, and that very justly and truly: For

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it

1. Vide de Morbis Vulgaribus, et de Prisca Medicina, p. 13.

it was by carefully observing the Air, Water, and the different Situations of Places, and his observing the Diseases which the Inhabitants of those Places were frequently or the most subject to, and by reasoning truly from the first to the Production of the last, that he discovered that certain Diseases were Endemial to the Inhabitants of those or such Places^c. And by observing the various Changes of the Air and Weather, and the Diseases which attended, or soon followed those Changes, and spread themselves among the People, and reigned for some time, till some other Changes of the Air carried off or altered those Diseases; and by reasoning from the immediate Effects which they had upon the human Body, to their final Effects, he discovered that those Diseases were at those Times *Epidemical*^h: And by observing that contagious and pestilential Diseasesⁱ did not solely proceed from those Changes of the Air, which the other epidemical Diseases did, but from some other *Ἀίτιν ἀδελος* hidden Cause in the Air, which he judiciously called *Μιάσματα*, *Miasmata*, which were conveyed by the Air from the Sick, or from the Bodies of those who were dead, and so spread and infected those that were well before; which he discovered by observing the different Natures

^c De Aere, Aquis et Locis. ^h De Morb. Vulg. vel Epidem. ⁱ Vide Thessal. Legat. Oration. et Epistol.

Natures and Symptoms which attended them, and did not attend the other epidemical Diseases; and also by observing them to be contagious and infectious to others, and their being spread to distant Places and Countries, that they proceeded from some *infectious Miasmata*, which were either exhaled from the Sick and dead Bodies, or were conveyed by the Air to the Sound, and infected them. Thus he investigated the Cause of those Diseases by just *inductive Reasoning* ^k.

Also by accurately observing the Changes which were produced in the Bodies of the Sick, and in their Diseases, after their using or taking different Kinds of *Diet*, he discovered by reasoning truly, that some Sorts of *Diet* were greatly prejudicial, and some others were as beneficial to the *Sick*, and to the Sound also; he therefore wrote those excellent Treatises *de Alimento, de salubri Vietus ratione, de Vietus ratione*, Lib. 3. and *de Vietus ratione in Morbis Acutis*; in which he has given us several short Touches of his Method of Reasoning, by which we may clearly see that he *reasoned* very justly ^l, and is the first that wrote upon this Subject: I know that some of these Books are supposed and said to be written by his Scholar and Son-in-law *Polybus* ^m.

D 2

That

^k De Morb. Epidem. vel Vulgar. L. 3. Sec. 3. p. 1081, &c. ed. Fæt.

^l Vide de Vietus ratione in Morbis Acut. et in Libris supra citat.

^m Vide Dr. Le Clerc. Hist. de la Med.

That *Hippocrates* had a true *Theory*, and *reasoned* very justly, also clearly appears from many other Parts of his Works, since *he* could not draw all those just Inductions and true Consequences which he has done in his Books of *Prænotionum* Lib. 1. *Prædictorum* Lib. 2. *Coacæ Prænotiones, de Judicationibus, de Diebus Judicatoriis*, and in his Book *de Aere, Aquis et Locis*, as also in the VII Books on *epidemical Diseases*, and some others, which he has left us, nor his *Aphorisms*, without *reasoning* justly and truly, as those Inductions which *he* has drawn and left us in them, remain in general to be certain *Truths* even to this Day, and could not be drawn but by the Means of just inductive Reasoning, and that *Reasoning* from *Observations, Nature, and real Facts*, in order to investigate the Causes of Diseases, and the right Method of treating and curing them, is a true *Theory*.

And this seems to have been the Sentiments of *Galen*, who very well understood his Works, and judiciously distinguishes the *rational Theory and Practice* of HIPPOCRATES, from those of the Empiricks, Pneumaticks, and Methodists, by the Name ΔΟΓΜΑΤΙΚΟΣ ^a rational, because it was founded upon *Observation and Nature* by just inductive Reasoning. And it is much wished

^a Εἰ δὲ διὰ λόγου τινός ἢ μεθόδου, λογικός τε καὶ μεθοδικός καὶ ΔΟΓΜΑΤΙΚΟΣ, Galen de Method. Medend. Lib. 3.

wished that *Galen* had as strictly followed and adhered to that *rational Theory* of *Hippocrates*, as he generally did, to his *Præctice*; and had not fallen into that Method of forming imaginary *philosophical Hypotheses*, on which he founded his own new *Theory*, which led both him and many other learned and ingenious Physicians into various Errors, and carried them from pursuing those Methods by which they might have made many useful Discoveries and great Improvements in the *medical Art*.

And as *Hippocrates* so strongly recommended the Study of *Geometry* and *Arithmetick* to his Son *Theſſalus*, as it would enable or teach him to reason right, and says °,
 “ *Verum etiam mentem acutiorē et longē*
 “ *splendidiorē ad fructum eorum omnium quæ*
 “ *in Arte Medica usui sunt, consequendum*
 “ *reddet—In re Medica subministrari, facilem*
 “ *tibi absque errore notitiā præbeat.*” May we not conclude that he reasoned *geometrically* himself, or in a geometrical manner from Observations and certain *Data*, tho’ he might neither make use of geometrical Lines, or numerical Figures, as the Subject did not require either of them: As he had so accurately observed the Changes of the Air, &c. and all the Symptoms which attended the various epidemical Fevers, and

D 3

other

° In Epist. Hippocratis ad Theſſalum Filium, p. 1288. ed. Foetii.

other Diseases, and what occurred and passed in each of them; and had as carefully observed what *Nature* did, how she proceeded, and what Effects *she* produced in each of them; and by so accurately observing, *he* found that *Nature* generally did at the last (or at least always attempted to) cast that *morbid Matter* which caused the *Fever* out of the Body, by some of the excretory Passages, and that the *Fever* and its Cause were carried off by that Discharge, and the Sick were restored to Health by such critical Evacuations, when they were perfect and complete: *He* therefore judiciously called that a *Kρίσις*, *Crisis*, a κρίσις, *Judico*, vel *Secerno*, and the Evacuation a critical Evacuation, as it judged or put an End to the Disease. And as *he* observed that such *Crisis*'s, and their salutiferous Effects, were sometimes produced solely by the Operations of *Nature*, without any Assistance from *Art*, *he* therefore, by the Use of true inductive Reasoning from those *Facts* which *he* had observed, not only investigated the Causes and the Manner of the Production of all those epidemical Fevers and Diseases; but by the same Method of Reasoning, and observing *Nature*, and what she did, he discovered that an increased Motion of the Blood, or a *Fever*, was necessary to comminute, break, and concoct the *morbid Matter*, and fitted it to be cast out of the Body;

Body; or, in other Words, to bring on a perfect *Crisis*: And that when the Fever was kept in a moderate Degree, either by *Nature* or by *Art*, and was neither too great and violent, nor on the contrary sunk too low, the *Crisis* was always the most perfect, and most effectually carried off the Disease. *He* therefore wisely judged that it was the Duty of the Physician to assist *Nature* agreeably to her Intentions and Indications, and always in such a manner as was conformable to them: And by the same Method of Reasoning, and observing what *Nature* did, *he* was enabled both to know what *she* indicated to be done, and what Methods and Means *he* should use, in order to assist *her* in the most effectual manner, and most agreeably to her Endeavours, to carry off the Disease and its Cause in the most salutiferous manner, when and where it could be done: And as so accurate an Observer as *he* was, must have observed, that when the Violence of the Fever was too great, it often put an End to the Patient's Life, before such a salutiferous *Crisis* could be brought on; and also that *Nature* frequently did render such a violent Fever more moderate and regular, either by a Hæmorrhage from the Nose, &c. or by some other Evacuations, so that *she* was thereby enabled to bring on a regular and perfect *Crisis* afterwards; and that that *Crisis*

intirely carried both the Fever and its Cause off: Therefore, when *he* found the Heat and Violence of the Fever, and the Commotion of the Blood was too great to carry on the Concoction of the *morbid Matter* regularly, so as to render it fit to be carried off by such a critical Evacuation, and that it would be destructive to the Patient before that could be effected, he wisely endeavoured to moderate that Commotion of the Blood, and abate the Violence of the Fever by Bleeding ^p, and the plentiful Use of a thin, diluting, attenuating, and cooling Diet ^q, or by such other Evacuations as Nature indicated to him to make; by which Nature being less oppressed, and more at Liberty, *she* was enabled to carry on the Work of Concoction and Expulsion of the *morbid Matter*, by such a critical Evacuation as *she* endeavoured and indicated to *him*, or to the Physician to assist her to produce ^r. And on the contrary, when *he* found that *Nature* was too languid and weak, either from the natural Weakness of the Patient's Constitution, the long Continuance of the Disease, or from too great Evacuations, or from any other Cause, so that the Motion and

^p Τα δὲ ὀξεία πάθη φλεβοτομήσεις. ἢ ἰσχυρόν φάινηται τὸ νόσημα, καὶ οἱ ἐχούτες ἀκμαῖωσι τὴν ἡλικίαν, καὶ ἐσθὴν παρῇ αὐτίσων, Hippocrat. de Victus Rat. in Morb. Acutis.

^q Τὰς δὲ πυρετώσας πόσισι καὶ εὐφήμασιν, ὥσπερ τον πυρετὸν ψυχρῶν φαρμάκω ἐκλυεῖν, &c. Hippoc. de Locis in Homine, de Victus Rat. in Morb. Acut. Coacæ Pranotiones.

^r Hippoc. de Vict. Rat. in Morb. Acut.

and Actions of the *Vis Vitæ*, or *Nature*, were too low and weak to carry on and perfect the Work of Concoction and Expulsion of the morbid Matter regularly, *he* was instructed by those low languid Motions, and their concomitant Symptoms, both how and when to assist *her*, agreeably to her Indications, by giving suitable cordial Medicines, and a more nourishing cordial Diet^{*}; as Mulsum, and sometimes Aromaticks, or Alexipharmicks: And thus *he* was instructed by *Nature*, both how and when *he* should assist *her* whenever *she* either fell short or failed, or was in Danger of failing, or falling short of producing those salutiferous Effects.

So likewise we find, that when *he* observed that both a Turgescency of the Humours, and that the infectious *Miasmata* stimulated and oppressed the *Primæ Viæ* in the Beginning of the Fever, in such manner, that *Nature* endeavoured to cast them out of the Body, either by vomiting or purging, or by both, *he* not only bled the Patient, but *he* also either gave an Emetick or a Purge, or both, at that Time of the Disease, accordingly as *Nature* indicated[†], in order

^{*} Idem. Ibid. et in L. de Morb. Vulgar. [†] Hippoc. Aphorif. L. 2. Aph. 28. Καλὰ δὲ τὰς ἀρχαὶς-ἐκείναις τῶν νοσημάτων περιᾶσθαι χρὴ τὰ μείζω βοηθήματα προσφέρειν, εἰ δὲ ταῦτα μὴ μάστιγα, φλεβολομία ἐνίοτε δὲ καὶ ἡ καθαρσις ὡς ἑστέρας ἐν τῇ ἀκμῇ χρόνῳ παραλαμβάνειν. Galen. Comment. 2. in Ap. Hip. et in Lib. de Viſt. Rat. in Morb. Acut.

order to lessen the Quantity of the infectious Matter, by carrying it off, and to moderate the Violence of the Fever thereby, and so assist and enable *Nature* to bring on a perfect Concoction of the remaining morbid Matter, and a complete critical Evacuation of it. And *he* also observed, that when the morbid Matter was not perfectly concocted, and all compleatly carried out of the Body, by a perfect *Crisis*, it frequently caused a Relapse of the Disease^u: Wherefore *he* endeavoured to assist *Nature* agreeably to her Indications, either to abate the Fever when too violent, by Bleeding and a thin cooling Diet, or when too low, to produce those good Effects, by Cordials and a cordial Diet; and when these Methods failed, and *he* could not so assist *Nature* by these Methods as above, to bring on a perfect *Crisis*, and a complete critical Discharge of the febrile Matter out of the Body; therefore, in order to prevent a Relapse of the Fever, *he* advises Purging, to carry off the remaining Part of the morbid Matter that Way; but not till after the *Crisis* was intirely over, and that we perceive by the small remaining Fever, and the other Symptoms, that it is an imperfect *Crisis*, and therefore requires that Assistance to carry that remaining Matter intirely off.

For

^u Hippoc. Aphor. L. 1. Aph. 21. Lib. 2. Aph. 12. and in Lib. de Judicat.

For which Reasons, when *he* saw that the *Crisis* was perfect, and that all the *morbid Matter* was effectually carried off, he judiciously forbids giving any *Purge*, because it only serves to weaken the Patient, who probably is already too much weakened by the Disease, and there is no febrile Matter left to be carried off, or that possibly can cause a Relapse ^a.

For, as *his* Intention of Purging was only to prevent a Relapse, *he* never gave Purgatives after a *Fever*, when it went intirely off, either by Resolution, wherein the morbid Matter and the Viscidity of the Fluids is duly attenuated and assimilated, or carried off by insensible Perspiration, without any manifest *Crisis*; or by a complete and perfect *Crisis*, because he clearly saw that the *Crisis* in both these Cases was perfect, and that there was nothing left behind, either to cause a Relapse, or to be carried off by purging ^b.

But in the Case of an imperfect *Crisis*, where some Part of the morbid Matter is left behind in the Body, *he* purged to carry it off, lest it should cause a Relapse ^c.

So likewise in that Sort of imperfect *Crisis*, wherein *Nature* casts the morbid Matter, with a Load of Humours, upon
some

^a Τα κρινόμενα ἢ τα κεκριμένα ἀπείως, μὴ κινεῖν μὴ δὲ νοσήσονται, μήτε φαρμακίᾳ μήτε ἀλλοίᾳ ἐπεδυσμοῖσιν ἀλλ' ἰατρ., Hippoc. Aph. Lib. 1. Aph. 20. ^b Idem, Ibid. ^c Hipp. Aph. Lib. 2. Aph. 12.

some particular Part of the Body, and forms an Abscess: In that Case *he* judiciously advises and directs us carefully to observe the Tendency of Nature, and tells us^d, “*That*
“*if the Humours tend to an improper Part,*
“*we should make a REVULSION of them*
“*from that Part; but if they have a right*
“*Tendency, we should encourage it by opening*
“*the Passages to the Part which they tend*
“*to.*” From hence we may see, that *Hippocrates* was acquainted with and well understood the Doctrine of *Derivation* and *Revulsion*, and both advises them, and made use of much the same Methods and Means to effect them, as Physicians now do, both to draw the Humours to a proper Part, by which they may be either safely carried off, or safely suppurated and discharged; or to derive them from an improper (or vital) Part, where they would be fatal: And accordingly we find that *he* bled and purged in a Quinsey, to revulse the Humours from the Throat^e: And *he* used warm Fomentations to derive the Blood from the Lungs, in a vomiting and spitting of Blood^f. And when *he* intended to draw the Humours from one Part of the Body to any other, *he* made use of Fomentations, Cupping, Fæ-nigmi, Pessaries, &c. which he applied to those Parts to which *he* intended to assist Nature

^d Hip. de Morb. Vulg. Lib. 6. Sec. 2. et in Aphorism.

^e Hippoc. de Locis in Homine, ed. Fæctii. p. 419. ^f Idem, de Natura Mulierum.

Nature to draw the Humours, that they might be either carried off by some critical Evacuation, as by the Catamenia, as it sometimes happens, or by Stool, Urine, Perspiration, or Sweat. Thus *he* endeavoured to assist *Nature* to carry the Humours off, by increasing some of those Excretions when *she* indicated it, either by giving a Cathartick, or some of the above named diluting, attenuating, cooling diuretick and diaphoretick Liquors, plentifully and warm; as, *Hydromel*, *Oximel*, *Warm-water*, *Mulsum*, or *Whey*, and covering his Patients up warm, to increase those *Secretions*; especially the three last, which they generally do, both more safely and more effectually also than the hot inflaming cardiac Medicines, such as *Theriaca Androm. Confec. Cardiacæ*, &c. which have been, and still are so much in vogue here, notwithstanding what Dr. Sydenham and the learned Boerhaave have judiciously advised and said against the Abuse of them.

And how these, and some other Passages in *Hippocrates*, should escape the Notice of the late eminent and learned Dr. Freind, when he said, "*Etenim Sudor perpetuo apud Hippocratem, quantum ego percipio, non ut curandi instrumentum, sed tantum ut præ-sagii nota proponitur. Igitur ille in libris,*" *qui*

* Idem de Victus Ratione in Morb. Acut. de Morbis Vulgaribus, Lib. 2.

* De Vict. Ratione in Morb. Acut.

46 *An Inquiry into the METHOD of*

“ *qui germani habentur ; remedii, quod Sudores provocet, nusquam meminit* ¹.” And he says after, “ *Utrum verò in febribus Urinam moventia adhibuerit, non plane constat* ².” For, in both these Cases that learned Physician seems to be mistaken, and must have overlooked the above-mentioned Passages, as well as several others, not only wherein *he* gave the above-mentioned cooling, diluting, sudorifick, and diuretick Liquors, *Hydromel, Oximel, Mulsum, &c.* warm and very plentifully ¹; and these small Liquors, so given, are well known to pass off very freely and plentifully, both by *Urine* and by *Sweat*, especially when the Patient is well covered up and kept warm, as *Hippocrates* in some Cases advises ^m. And when they are so given, they are both more powerful *Sudorificks* in such *Fevers*, and are every way much preferable to the hot inflaming *Sudorificks* above-mentioned, which were then and now still are so much in Fashion, and are too often used to the Disadvantage of the Sick ; but some of them are also powerful *diureticks* : And the learned Dr. *Boerhaave* says, that *three Parts Water*, and one

¹ Dr. Freind. Comment. in Hip. de Morb. Epidem. Com. 3.

² Idem. Comment. 8. pag. 131.

¹ Hippocr. de ratione

Vitæ in Morb. Acut.

^m Hip. de Dieta in Morb.

Acut. and Hippoc. in Lib. de Morb. advises warm Bathing, Fomenting, and covering the Patient up to open the Pores, and promote Sweating.

one Milk, is the greatest diuretick that we know. But we find that Hippocrates also gave both Sorts of Nitre, the common Sal Nitrum in some Cases^a, and the Νίτρον ἐρυθρον, Nitrum Rubrum, or Νάτρον of the Ancients, both which are diureticks; but in the Jaundice, and in a Suppression of Urine, he gave four Cantbarides^o, without their Wings and Heads; and he gave three in the same manner, pulverised in a little Wine, in a Dropsy^p. And he is the first Author that mentions or used Cantbarides inwardly, and they are a very powerful Diuretick; he also used several diuretick Vegetables, which he mentions in various Places in his Works. And he says in his Book de Locis in Homine, "In a Fever we may give aqua Mulsa et Acetum cum aquâ calida, vel Oximel, plentifully.—And they will wash off the morbid Humours by Urine, or by Sweat^q." The Doctor also might have observed that Hippocrates often mentions Sweating as a critical Evacuation, in several other Places of his Works. In one he says, "That Diseases go off by Expectoration, Stool, or Urine; but that Sweating is common to them all^r. That a Causos goes off by a Hæmorrhage

^a Hippocr. de Superfœtat. Edit. Fœtii, p. m. 266. l. 19, 54. & de Morb. Mulier. Lib. 1. pag. m. 597. ^o Hip. de Intern. Affectionibus, pag. m. 552. l. 20. ^p Hip. de Rat. Victus in Morb. Acut. p. 406. ^q De Locis in Homine, p. 418. et in locis citat. ^r De Vict. Rat. in Morb. Acut. et in loc. citat.

“ *Hæmorrhage from the Nose, or by critical*
 “ *Sweats, with a concocted Urine.* That
 “ acute Diseases are terminated by a Flux
 “ of Blood from the Nose, on the critical
 “ Days by copious *Sweats*, with a concoct-
 “ ed *Urine* * with a good Sediment.” And
 it appears that three of those four Cases,
 which the *Doctor* says were carried off by
 critical *Hæmorrhages* †, were really carried
 off by *critical Sweats* and by *Urine*, with a
 large Sediment ‡: *Nature* being less op-
 pressed, and at more Liberty after that
 Evacuation by the *Hæmorrhage*, *she* then
 carried off all those *three Fevers*, either by
 large warm *critical Sweats*, or a copious
 Sediment in the *Urine*, as appears from
Hippocrates’s own Words †, and as *she* did
 in the other Patients, mentioned in the
 same Books, 1st and 3d.

And although *Hippocrates* does not tell
 us what Medicines *he* gave, or what Me-
 thods he used in those Cases to assist *Nature*,
 either to promote the *Hæmorrhages*, the
Sweats, or *Urine*, no more than *he* mentions
 Bleeding in several other Cases, when it
 probably was used, as both *Galen* and Dr.
Freind * suppose; as we find that *he* both
 used warm Bathing, Fomenting, Anointing,
 and the above-mentioned small Liquors,
 which

* Hippoc. Coacæ Prænotiones, et in locis jam citat.

† Dr. Freind. Comment. in Hip. Epidem. Com. 3.

‡ Hippoc. de Morb. Vulgar. L. 1. Ager 6, 7. Lib. 3.
 Ager 11, 12. * Ibidem. * Comment. 1. p. 11.

which he gave plentifully warm, to promote those Evacuations, especially near the *Crisis*, at other Times and in other Cases: It is as reasonable to suppose that *he* used the same Methods to those *Patients*, mentioned in his *Book* of epidemic Diseases; and that he did not stand as an idle Spectator in those Cases, since he was always so ready to assist *Nature* in all other Cases,

And as *Hippocrates* always carefully observed Diseases, and all their Symptoms, Changes, and their Progress, and as diligently watched *Nature*, and what she did, or indicated to be done, *he* was enabled, by reasoning truly from the Facts which he observed, and conformably to *Nature's* manner of acting, both to know what she endeavoured and indicated to be done, and how to assist her in the most judicious and effectual manner, to bring on a perfect *Crisis*, and thereby to carry off the *morbid Matter*, and the *Fever* caused by it, agreeably to such Ways as she indicated, when and where that could be safely and effectually done. And when *he* saw that that could not be effected, he was instructed, by the same Method of Reasoning, what Methods *he* should use to revulse the morbid Humours, from such Parts as they could not be discharged by; and how *he* should derive them to such Parts of the Body, as they might be effectually carried off by a

E

critical

critical Evacuation. And he acquired all this Knowledge, solely by observing the Changes of the Air and Seasons; and by carefully observing Diseases, and all their Symptoms and Progress, and as diligently observing Nature, and what she did, or indicated to be done, assisted by true inductive Reasoning from the two first, and as carefully following and assisting Nature, agreeably to her Indications; and he did all these without either knowing the Circulation of the Blood, or how the various animal Secretions and Functions of Life were performed, or knowing the Laws of Motion of Matter, or the Laws of Motion of Fire; all which have been since discovered by the Moderns, by the same Methods of Observation, Experiments, and inductive Reasoning, as we shall see in the following Pages.

Thus we see how this great Father and Prince of Physicians was instructed and enabled, both how to truly know Diseases, and their Causes, and their Manner of Production; and also how he was enabled to cure them in the most safe and effectual manner, by carefully following and judiciously assisting Nature, according to her Endeavours and Indications; and how greatly he improved medical Knowledge, and the Art of curing Diseases by those Methods: And if all the learned and ingenious Physicians, who have lived since him, had

had pursued the same Methods, even with half as much Penetration and Diligence as *he* did, no doubt but the *medical Art* might have been brought to a much greater State of Perfection than it is yet arrived to. But alas! too many of the most ingenious Physicians since *him* have pursued very different Methods, which have much more hindered than improved the healing Art, as we shall see; yet those few eminent Physicians, who have pursued *his* Methods, have made many great Improvements in the various Branches of this *Art*.

Hippocrates did not only make all these great Discoveries and Improvements, but by the same Method of carefully observing and accurately distinguishing all the different Symptoms which attended all the different Kinds of Fevers, and other Diseases, and observing all the Consequences which attended and followed them, *he* was enabled to distinguish which Symptoms were good, and indicated the Recovery of the Sick, and which were bad Symptoms, and indicated the Death of the Patient; And from these, assisted by the Observations and Predictions which *he* had collected from the before-mentioned Tables, in the Temples of *Æsculapius*, and true inductive Reasoning, *he* was not only enabled to predict the Recovery, or the Death, or other future Accidents, which did attend *his* Patients,

but also to form and draw up all those valuable and useful Predictions, which *he* has left us in his *Coacæ Prænotiones*, *Lib. Prædictorum*¹, *Lib. 1, 2. Lib. Prænotionum 1. De Judicationibus, et de Diebus Judicatoriis*, and in his excellent and no less valuable Book of *Aphorisms*, as well as in several other Parts of *his Works*, which in general have been found to be true, and therefore have remained to be established Rules to all succeeding Physicians since *him*; and most probably will be so to all future Ages, unless Mankind sink again into a State of Ignorance and Empiricism, as they did for a thousand Years after him, as we shall see; to which this present Age seems to have too great a Disposition and Tendency; wherein accurate Observations, just Reasoning, and true *Theory*, are already become so unfashionable; and reasoning from Hypotheses and imaginary Data, or trifling with Suppositions, and amusing themselves with Cockle-shells, and pretty Butterflies, and other Insects, which furnish us with no useful Knowledge, though they may be pretty innocent Amusements for Ladies, who have much Leisure, as they shew the great Variety of the Works of Nature, but are of little or no real Use in the medical Art, though they are so much
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¹ These two Books are supposed by some Authors to be written by Polybus, and not Hippocrates.

in Fashion now, and have been so some Years past. For when we reason from false Data and imaginary Hypotheses, and depart from *Nature* and her Laws of acting, how truly soever we may seem to reason, all our Inductions which we draw from them, and all the Systems so formed must be erroneous or false, therefore *Hypotheses* and imaginary Suppositions never should be admitted either into *Philosophy*, or the *medical Science*.

But as *Hippocrates* always accurately observed and strictly followed *Nature*, and reasoned truly from *Facts*, and always conformably to what *Nature* did, *he* never was in danger of falling into such Hypotheses, or any such Errors: Neither shall we, if we do but as strictly observe and follow *Nature* as *he* did, although she does not act as an intelligent Being, with Design, yet so wisely and wonderfully is the human Body formed, and so constructed, that when any deleterious Matter, or any infectious or contagious *Miasma*, are got into the Body, they soon so stimulate, irritate, and offend those sensible nervous Parts, which they come into contact with, that they cause them to contract themselves more strongly and more frequently, in order thereby to eject that offending Matter out of the Body, as we frequently see *she* does by vomiting and purging, when the offending Matter

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is in the *Primæ Viæ*; and when it is got into the circulating Fluids, the same irritating Cause so stimulates the Heart and Arteries, that it causes them to contract more frequently and strongly, and thereby to act with greater Force upon their contained Fluids, and causes them to move with greater Velocity, and act with greater Force, by which the *morbid Matter*, or *Miasma*, is cast out of the Body by *Perspiration*, *Sweat*, *Urine*, or by *Stool*; or when the contagious *Miasma* is composed of such Parts, either from their Form, Figure, Magnitude, or Cohesion of its ultimate elementary Particles, that they cannot pass off by any of the excretory Passages; that increased Action of the Solids and Motion of the Fluids, caused by the Stimulation of the morbid Matter, still remaining, so increases the Motion and Attrition between the Solids and Fluids, that they collect a great Quantity of *Fire*, and produce a great *Heat*, or a high Fever, which will be greater or less, as the Quantity of Motion and Attrition are greater or less, by the *Laws of Motion of Fire*, *Law the 1st*; and that increased Quantity of *Fire*, or Heat, by its active, penetrating, and dividing Power, and its stimulating power, together with the continued increased Momentum of the circulating Fluids, will attenuate, divide, and break, or in *Hippocrates's Terms*, *concoct* that *morbid Matter*, so as to render it fit,

fit, or capable of passing through some of the excretory Vessels or Pores, and will then be cast out of the Body by *Nature*, by a critical Evacuation, through some of the excretory Passages, which *Hippocrates* called a *Crisis* of the Fever; and when the morbid Matter, which caused that Stimulation, is thus intirely cast out of the Body, the Irritation, and the increased Motion of the Fluids, and the Fever and Heat, soon cease also, and the Disease goes off; and the Fluids return to their regular Motion, and the Sick is restored to Health again, by that complete and perfect Discharge of the *morbid Matter*, which caused the Fever. This Discharge or Evacuation, *Hippocrates* therefore judiciously called a *Crisis*, as it finally determined and put an End to the Disease.

We do not suppose that *Hippocrates* reasoned exactly in this Manner, because neither the Circulation of the Blood, nor the *Laws of Motion of Matter*, nor the *Laws of Motion of Fire*, were then known; yet by carefully observing *Nature*, and what she did, and what Effects she produced, *he* discovered that she did produce these very Effects, and that Fevers were thus judged and determined by a *Crisis*, on some certain Days, *he* therefore carefully observed and accurately described those their different critical Days.

It is well known that there have been some Physicians both among the Ancients and Moderns, who were Men of some Eminence and considerable Practice in their Time, who have rejected and pretended to despise this ancient Doctrine of *Crises*, and *critical Days*; and there also have been, and still are some others, who, although they allow that Fevers might come to their regular Crisis, in the warmer Climate of Greece, where *Hippocrates*, and the other *Greek Physicians* lived; but will not allow that Fevers now come to such a *Crisis* in the colder Climates, especially in *England*. But such Physicians, if there can be such now, are greatly mistaken, and their Ignorance of them must either arise from their own Indolence, and their neglecting to observe the Rise and Progress of Fevers to their *acme*, or Height, and their Declension and coming regularly to their *Crisis*, which they as certainly do in this Island, and all other Countries, as they did in *Greece*; or from their Want of Penetration to see them do so. For we find that the honest and worthy Dr. *Sydenham*^a observed, that Fevers came to their regular Crisis in *England* in his Time; and the learned Dr. *Boerhaave*^b observed, that they did so in *Holland*; and Dr.

^a Vide Dr. Sydenhami Opera in variis locis. ^b Aphorism. de Cog. et Cur. Morb. §. 587. et in Comment. Battoni Van Swieten in ejusd.

Dr. Hoffman^e in Germany; and several other eminent and learned Physicians^d have always observed the same here in England since them: And I may take the Liberty to add, that I have constantly observed, that during the Course of my Practice above thirty Years, Fevers, when properly treated, have generally come as regularly to their Crisis, both here in England^e and in the Island of Barbadoes^f, which is within the Torrid Zone also, and is as much warmer than Greece, as Greece is warmer than England; therefore we may conclude, that Fevers come as regularly to their Crisis in all Nations and Climates, as they did in Greece, if properly treated, which sufficiently confirms the Truth of the Hippocratic Doctrine of Crisis's in that Respect: Tho' we must allow, that Hippocrates seems in several Places of his Works, especially in his Books *de Crisibus*, *de Judicationibus*, et *de Diebus Judicatoriis*, to be a little too much influenced by the philosophical Opinions of Pythagoras, which was much in Vogue in Greece in his Time, and more particularly in regard to his odd Number of Days, and the Crisis of Fevers happen-

^e Fred. Hoffmani Med. Rational. Tom. 3. §. 1. Cap. 25, &c.

^d Vide Dr. Huxham de Aere et Morb. Epidem. circa Plym. passim. Dr. Clif. Winteringhami Comment. Nosolog. passim.

^e See Observations on the Air and epidemical Diseases at Rippon. In Hillary on the Small-Pox.

^f Observations on the Air and epidemical Diseases in Barbadoes, 1759, by the same.

ing on those *odd Days*, being more perfect *Crisis's* than those which came on the even Number of Days^a; yet *he* was not so far influenced by those *odd Days*, as to think that a perfect *Crisis* could not come on an even Number of Days, as he mentions some that did, as on the fourth and sixteenth Days, which were perfect; and some others: And although *he* might be a little influenced by that then fashionable Philosophy as *Celsus* says^b, yet he certainly was probably the most free from Superstition of any Man in those Times, as appears from what *he* says in his Book *de Morbo Sacro*: So subject are even the greatest of Men, to be more or less influenced by Fashion, and plausible Appearances in Things that come from Men, who have acquired a great Name, as *Pythagoras* had.

How much *he* improved Surgery and Pharmacy, we cannot certainly say; because we have no Account of what Improvements had been made in them, from the Time of *Æsculapius* to his Time, a Space of more than 700 Years: But as the Practice of Physic, as well as Surgery and Pharmacy, were very simple before that Time, and probably many Years after *Æsculapius's* Time, no doubt but some considerable Improvements had been made in them both,

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^a Hippoc. Aphorif. Sec. 4. Aph. 36. Aph. 61, 64.
^b Verum in his quidem Antiquos, tunc celebres admodum Pythagorici numeri fefellerunt, Celsi, Lib. 3. Cap. 4.

before the Time of *Hippocrates*; and it is no less probable, that *he* made several great Improvements in them, as well as in the *Practice of Physic*, as they were all practised by the Physician, and were not divided into three different Professions, till some Years after *Hippocrates's* Time, as we shall see hereafter. However, that *Hippocrates* practised and very well understood all the Operations in Surgery (except cutting for the Stone, which was in those Days left to those Persons who professed it only) as Trepanning, the Paracentæsis, both in an Empyema and a Dropsy; and he opened the Back to discharge the Matter from an Abscess in the Kidney¹; he reduced Fractures and Dislocations, and used Astringents, Ligatures, and Cauterizing, to stop bleeding in large Wounds, and Sutures to unite their Lips; and practised most of the Branches of Surgery with great Skill, insomuch that the Improvements made in that Profession since his Time, are not so very great as some Persons suppose them to be, though some considerable Improvements have been made since the several Improvements in Anatomy have been made.

From what we have said before, it appears that the Method of treating and curing Diseases was very simple and plain, and made but a very slow Progress in its Improvement

¹ Le Clerc. Hist. de la Medicine, p. 232.

provement during the first Ages of the World, down to the Time of *Æsculapius*; and from his Time, down to that of *Hippocrates*, supposed to be about 700 Years, the Practice seems to have been chiefly Chirurgical, or so much of it as was Medical, or giving Medicines internally to effect the Cure of Diseases, consisted only of having a few Receipts, how to prepare a few simple Remedies from some particular Plants, and a few simple Medicines for some few no less simple Diseases, which they had found out by Experience, and preserved by Tradition: So that the Practice of Physick, before the Time of *Hippocrates*, was only *Empirical*, and made but a slow Progress in its Improvement, even in the *Asclepiadian* Family, till *Hippocrates* came; who was born in the Island of *Coos* about 458 Years before the Beginning of the *Christian* *Æra*, and 2218 Years since. He was of a noble Family, the Son of *Heracledes*, and the Eighteenth in a lineal Descent from *Æsculapius*, and of *Phænarete* or *Praxithea* his Mother, who was the 19th Descendant from *Hercules* ^k.

And as *Hippocrates* is said to have lived to the Age of 105 Years, and was a Man of great Penetration and sound Judgment, and of no less Probity and Temperance, and endowed with all necessary Qualifications

^k Idem, p. 113.

tions and Abilities for improving the medical Art; all which he applied with great Diligence and indefatigable Industry, to its further Improvement.

And accordingly we see what great Discoveries and Improvements *he* made in that Art, by carefully observing all the Changes of the Air, Weather, and the Seasons, and on the various different Kinds of Diet, and all the Changes made therein, as well as all other Accidents which happen to Men; and as accurately observing how all those Changes and Accidents affected the human Body, what Changes they produced therein, and what Diseases followed and were produced by them; whether they were endemial, epidemical, contagious, malignant, or pestilential, or whatever other Diseases they were, that came with or succeeded those Changes.

By thus accurately observing all those Changes and Effects, and what *Nature* did, *he* was enabled, by *true and judicious inductive Reasoning*, not only to know what Assistance *Nature* wanted, but also how and when *he* should assist *her*: And *he* also was thereby enabled to predict the future Events and Effects of those Diseases, when *he* saw them.

Thus by making many accurate Observations on the Air, Diseases, and Nature, as above, and reasoning justly from them,
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and conformably with the Actions of Nature, and confirming the Truth of his Inductions from them; by further Observations and Facts again, *he* was enabled to form and draw up all those inimitable and most valuable APHORISMS which *he* has left us, and which have remained as so many permanent Truths through all past, and probably will so remain through all future Ages.

But *he* has also left us his no less valuable *Coacæ Prænotiones*, and those judicious Remarks and most useful Rules of Practice, in his Book *de Viëtus Ratione in Morbis Acutis*, wherein *he* has given us excellent Rules how to adapt the Diet of the Sick, both to the different Degrees and the different Times of Fevers, as well as to the different Ages, Constitutions, and the Degrees of Strength of our Patients; and many other useful Observations, both in that Book and in various other Parts of *his Works*; to enumerate which, would be writing a History of *his Works*, which is not my Intention, nor to write a History of *Physick*, but to give my Readers a short Sketch of the most material Discoveries and Improvements which *he* made in the *medical Art*; that we may be induced thereby to imitate and pursue those Methods by which *he* did make those great Discoveries and Improvements, and thereby still further improve medicinal Knowledge;

Knowledge; and not by forming imaginary Hypotheses, or reasoning from Suppositions and false Data, how philosophical and plausible soever they may appear to be; but from real *Facts*, known by accurate Observations upon Diseases and their Causes, and upon *Nature*, and her Motions and Manner of acting, carried on by just and true Reasoning from and conformable to them; as it was by these Methods that the great HIPPOCRATES made all *his* great Discoveries, and so much improved the empirical Practice of his Predecessors, as to form *his* just and *true Theory and Practice of Physick*, as *he* says, KATA ΦΥΣΙΝ ΘΕΩΡΕΩΝ, by *theorizing agreeable to Nature*, Reason, and Truth: But what is still more surprising is, that this great Physician could make all those great Discoveries and Improvements, and obtain all that extensive Knowledge in the medical Art, solely by making Observations on Diseases, on *Nature*, and her Actions, and by reasoning from and agreeably to them, without either knowing the *Circulation of the Blood*, the *Laws of Motion of Matter*, and the *Laws of Motion of Fire*, or knowing the true Structure of the human Body, and the Use and Actions of its different Parts, so well as to know where and how Nutrition, and the various Secretions, Excretions, and all the other Functions of Life are performed, or more certainly in
what

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what Parts of the Body each of them are performed; although he did know from Observation and Experience, that they were all constantly and regularly performed in a perfect State of Health. Yet without the Knowledge and Assistance of these, and the other modern great Discoveries, we see what great Discoveries and Improvements *be* made in the healing Art, and to what a prodigious great Extent *be* was able to carry his Knowledge of Diseases, their Causes, and the Methods of treating and curing them, as well as predicting their future Events, solely by the above-mentioned Methods of Proceeding, which so justly entitled *him* to that great Reputation, Name, and Fame, which has been ascribed to *him* in all Ages since: So that though *Æsculapius* is said to have been the first Inventor, yet *Hippocrates* has always had the Honour of being the first that formed and established it as an Art; wherefore *be* has been called *Ἀρχίατρος*, *first Physician*, by most Physicians, both as *be* was the greatest of *Physicians*, and the *first* that brought the empirical Practice of the Ancients to be a real *medical Art*; for which *be* was so much esteemed by his Countrymen, that some of the idolatrous *Greeks* worshipped him as a God after his Death.

S E C T.

S E C T. II.

On its IMPROVEMENT after the Time of
Hippocrates.

HIPPOCRATES left two Sons, *Thesalus* and *Draco*, and a Son-in-law *Polybus*; the first was Physician to *Arche-laüs* King of *Macedon*; and the second had a Son called *Hippocrates*, who was Physician to *Roxana*, the Wife of *Alexander* the Great; and *Polybus* continued to teach the Scholars of his Father-in-law *Hippocrates* after his Death; and is said to be the Author of some of the Books which have been ascribed to *Hippocrates*. But as neither these, nor several other Physicians, who were Contemporaries with, or lived some Years after him, have left us any of their medical Works that are come to our Hands; and the short Accounts that we have of them are so uncertain, and give us no Account of any real Discoveries or Improvements that they made in the medical Art, I shall pass over them; and those who desire to know more of them, may consult Dr. *Le Clerc's Histoire de la Medicine*, till we come to *Theophrastus*, who has left us a natural History of *Gems*, and of *Plants*, but says little of their medicinal Virtues, so that we can collect nothing that was new from them.

Diocles Carystius lived soon after *Hippocrates*, and was called by the *Athenians* the second *Hippocrates*; he wrote a Treatise of *Anatomy*, or rather on the Method of Dissecting, but made no material Improvements therein; and several Books of *Physic*, which are all lost.

And *Praxagoras* soon succeeded him; and is said to have been the first that distinguished the *Arteries* from the *Veins*; he divided the Humours of the Body into eleven different Humours, and supposed that these, and their different Dispositions, were the Causes of Sicknes and Health: Those that desire it, may see more of the Practice of these two Physicians in *Cælius Aurelianus*. However they are said to have chiefly adhered to and followed the *Hippocratick* Doctrine and Method of Practice, though they are often quoted by *Cælius Aurelianus* the Methodist.

And as most of the eminent *Greek Philosophers* had applied more or less of their Time to the Study of the Nature of the human Body, and some of its Diseases, and several of them had written something upon some of the Branches of the medical Art, as, *Pythagoras*, *Heracitus*, *Democritus*, *Epicurus*, *Plato*, and *Aristotle*, and some others, though none of them have been preserved to our Times; yet the Principles of their different Systems of Philosophy appeared

appeared so plausible, together with their being much in fashion at different Times, that they were introduced into the *medical Art*, either in Hopes, or with Pretence of explaining the Causes of Diseases, or more clearly discovering and demonstrating the Methods of curing them; though they generally reasoned philosophically, and probably sometimes truly, from Suppositions and imaginary Data, and not conformably to the Operations of *Nature*; hence they were generally led into Mistakes and Errors: And although *Hippocrates* himself might be a little too much influenced by the Philosophy of *Pythagoras*, in regard to his odd Numbers in *his Crisis's of Fevers*, and by the Philosophy of *Heraclitus*, in regard to the Effects of *Fire*, in the Performance of the Action of Digestion of our Food, and the *Concoction* of the *morbid Matter* in *Fevers*; in both which last *he* probably will be found to be *right*, when the *Laws* of the *Action of Fire* are better understood; yet *he* in other respects only made use of so much Philosophy as enabled him to reason more justly, and took care to reason from certain known Facts, and always conformably to *Nature*, and what she really did, both in his investigating the Causes of Diseases, and the Methods of curing them; wherefore they remain to be Truths, and are right in general, even to this Day. But the Physi-

cians who came after *him*, not being so careful either in their Observations, or in being certain of the Truth of their *Data*, which they reasoned from, or not so accurate in observing and following *Nature*, as *he* was; their Systems of Philosophy generally led them into Hypotheses and Errors, and divided the Physicians, who came after this Time, into different Sects and Parties, as we shall see hereafter.

Erasistratus, the Scholar of *Chrysippus* the *Cnidian*, a Descendant from *Æsculapius*, and *Herophilus* of *Chalcedon*, are said to have been the first that dissected human Bodies, in order to discover its Structure, and improve their Knowledge in Anatomy; and it is also said that *Ptolemy Soter*, and *Ptolemy Philadelphus*, Kings of *Egypt*, allowed them the Bodies of the condemned Malefactors for that Purpose*. *Erasistratus* is said to have first discovered the *lacteal Vessels*; and he supposed that the Nerves were of two Sorts, the one to convey Sense, and the other to give Motion to the different Parts of the Body; but he supposed that the Arteries contained and conveyed the Spirits, and the Veins the Blood; and that the Causes of Diseases were generally in the Solids, and not in the Spirits or Humours: And he first says that the Urine is separated
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* Celsus in Prefat. Lib. 1. p. 7. for which he condemns their Cruelty, about A. Mund. 3690, and about 200 Years after Hippocrates.

in the Kidneys, and not by Attraction, as *Hippocrates* and the Ancients, as well as all the Philosophers supposed; though he does not explain how it is secreted: But one of his Followers says, that the aqueous Part of the Blood descends by its Weight to the lowest Part of the Kidney, and is, with the useless Parts of the Blood, so carried off. He opposed Bleeding and Purging in most Cases, especially in a Plethora, and substituted Abstinence, Vomiting, and Clysters, instead of them. In other respects, he chiefly followed the *Hippocratick* Method of Practice; though he wrote expressly against the *Coan Physicians*, of whom *Hippocrates* was the Chief^b. He was a very able Surgeon, but was thought to be too cruel in some of his Operations; as, he would open the Belly in a scirrhus Liver, and apply his Medicines to the Part affected^c. And he is said to have discovered by the Alteration of the Pulse and Countenance, which he found in *Antiochus* the Son of *Seleucus Nicanor*, whenever Queen *Stratonice* came into his Chamber, that his Disorder arose from his being in Love with that Queen, his Mother-in-law^d.

But *Herophilus* his Cotemporary, is said to have been the greater Anatomist, and to have

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^b Dr. Le Clerc. Hist. de la Medicine. ^c Cælius Aurelian. de Tard. vel Morb. Chron. Lib. 3. Cap. 4. ^d Plutarch in Demetr. Valer. Maxim. L. 5. C. 7. Galen de Præcog. ad. Posthum. C. 6. Le Clerc. Hist. de la Med. p. 294.

have understood the Structure of the human Body better, and to have made more Discoveries therein than *Erasistratus* did, if we may believe *Fallopious* ^e, who was a very good Judge therein. He is also said to have discovered the *lacteal Vessels*; and gave Names to the various Parts of the Body, which they retain to this Day ^f. He was a great Lover of *Botany*, as well as *Physick* and *Surgery*; and is said to have made some considerable Improvement in each of them. *Galen* calls him a consummate *Physician*, and a very great *Anatomist*; and says, that these two great Anatomists dissected many human Bodies at *Alexandria* in *Egypt* ^g. *Tertullian* says 600, and calls him *Herophilus ille Medicus aut Lanus*; as they are said to have dissected condemned Criminals alive ^h. He is said also to have discovered the *Nerves*, and their Use ⁱ. He makes three Sorts of them; the first to convey Sensation, the second to move the Bones, and the third the Muscles. He also mentions the *optic Nerves*, the *Retina* ^k, and the *Tunica Arachnoides*, and *Choroides*; the *Lacteals*, *mescenteric Glands*, and the *Glandulæ Prostatæ*. He is the first that wrote any thing distinctly with Exactness on the *Pulse*, though *Hippocrates*

^e Fallop. de Mater. Med. Dioscorid. L. 1. C. 1. ^f Le Clerc. Hist. de la Med. p. 320. Idem. Ibid. ^g Galen. de Dissect. Vulvæ, Cap. 5. Le Clerc. Hist. Med. p. 317. ^h Tertull. de Spir. vel Anim. ⁱ Le Clerc. Hist. Med. p. 319. ^k Idem. Ibid. et p. 320.

crates took some Notice of it. To understand which *Pliny* says ¹, one should understand Musick and Geometry; probably because he made use of the Terms of those Arts, to divide and measure the Times of its Motion with. He is said to have been the first that administred many Medicines to his Patients, at least more than the Ancients usually did; though he in general used and followed the Method of Practice of *Hippocrates*, and his Master *Praxagoras*, though he wrote against the *Prognosticks* of the first ^m; most probably because he did not perfectly understand them, as he had not time to make such Observations.

These two eminent Physicians had many Disciples and Followers, but they did not follow the *Hippocratick* Method as their Masters generally did, but began to neglect the Method of observing the Changes of the Air, the Nature and Progress of Diseases, and the Actions and Operations of *Nature*; and took the much more easy, but the more fallacious and uncertain way of endeavouring to supply the Deficiency of that laborious way, by reasoning in a philosophical Manner from imaginary Hypotheses, which were more easily formed, but led them into various erroneous Opinions, and soon after divided them into several

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different

¹ Plin. Nat. Hist. Lib. 29. Cap. 1. Le Clerc. Ibid.

^m Idem. Ibid. p. 320.

different Sects in the medical Art, accordingly as they embraced the new different Systems of Philosophy, as we shall see.

For most of the various new Systems of Philosophy, which had been invented by the several *Greek Philosophers*, in that and the two preceding Centuries, were each of them, in their Turns, brought into the *medical Art* by different Physicians, accordingly as they embraced their different Systems; and this produced a Variety of different *Sects* in the Profession, as, the *Dogmatists*, *Empiricks*, *Pneumatics*, *Episynthetics*, *Ecclecticks*, and *Methodists*. But *Hippocrates* had only introduced so much of his Philosophy into his *Theory of Physick*, as enabled him to reason truly in investigating the Causes and the Methods of curing Diseases: Hence those who followed his Method of Reasoning, when these Divisions were made, were called ΔΟΓΜΑΤΙΚΟΙ, Rationalists: But we find that this Division into different *Sects* was not made before this Time, viz. about the Beginning of the 38th Century, or about 150 Years before *Christ*: So likewise, although the Practice of Physick was *Empirical* from its first Beginning, yet the *Empiricks* were not formed into a *Sect* till the time of SERAPION, a Native of *Alexandria* in *Egypt*, where he lived and practised: He finding that the Physicians of those Times had so filled their

Heads with the several different new Systems of Philosophy, which were then so much in vogue, that every one attempted to account for and explain the Causes, Symptoms, and Effects of Diseases, and the Methods of curing them, according to the Principles of that Philosophy which he had embraced, and liked the best : Whence that of making Observations on *Diseases* and *Nature*, according to the Method of *Hippocrates*, was almost intirely neglected, except by the few *Dogmatists*, who had so much Penetration and Sense, as to see that *Observations* and *Reasoning*, were so far from being incompatible with, that they might greatly assist each other : and that by Reasoning from real *Facts*, discovered and certainly known by accurate Observations, they may be so improved by just Reasoning, as to lead us to the Knowledge of Things, which we did not know before. But *Serapion* being so much displeased with their trifling with, and Abuse of Reasoning, according to the false Principles of their various erroneous Systems of Philosophy, seems to have run into as great an Extreme on the other hand, and endeavoured to maintain, “ *That Reasoning was of no use in*
“ *Physick, and that we ought to adhere solely*
“ *to Experience* *. Thus he rejected all Reasoning, because some Men by reasoning
wrong,

* Dr. Le Clerc. Hist. de la Medicine, p. 342.

wrong; run into great Mistakes and Errors, as some have done in all Ages; but that could not be a sufficient Cause for his rejecting all Reasoning, since Reason is the Guide which should direct and govern all our Actions. However this his Conduct gave rise to the *Sect* of the *Empiricks*, who have always looked upon *Serapion* the *Alexandrian*^b, (or *Philinus* of *Coos*, a Disciple of *Herophilus*, who *Galen* says^c was a half *Empirick*, though he has been generally deemed a *Dogmatist*) to be their first Founder or Head: And the *Methodists* have also claimed *Serapion* as their Founder; for both these *Sects* rejected all Reasoning and *Theory* in Medicine, therefore their Practice must have been *Empirical*, as well as that of the *Empiricks*; or what is worse, sometimes right, and often wrong, as not being directed by Reason.

This happened about the Beginning of the Thirty-eighth Century, in the Reign of *Ptolomy Philometor*, or *Euergetes*, and 140 Years before *Christ*. What the different Opinions of the *Dogmatists* and *Empiricks* were, and wherein they differed, is elegantly and concisely described by *Celsus*^d, and more fully by *Galen*^e and Dr. *Le Clerc*^f, which the Reader may see at large, as the last

^b Idem. Ibid. & Galen. in Introd. ad. Subfig. Empir.

^c Idem. Ibid.

^d Celsus in Præfat. Lib. 1.

^e Idem.

Ibid.

^f Le Clerc. Hist. de la Med. p. 344, 347.

last has given us a full Description of their Tenets.

However some of the *Empiricks* did admit of a little Reasoning, others not, but in general were satisfied with observing what effected a Cure, without reasoning about the Causes of Diseases. But the *Dogmatists* carefully observed Diseases, their Symptoms, and what *Nature* did, and how Cures were effected by her; therefore thought it was necessary to know the Principles and Structure of the Body, the Causes of Diseases, how they were produced, and how they were carried off and cured, either by *Nature* or by Art; and therefore should be known by accurate Observations and just Reasoning, by every Physician, before he attempts to make a Cure. *Celsus* examines both their different Opinions, and judiciously blames what he thought was wrong in either of them, and approves of what was right: He therefore justly blames the *Empiricks* for thinking that Anatomy, and a Knowledge of the Structure and Use of the different Parts of the Body, and reasoning from Observations, in order to know the Causes and the right Method of curing Diseases, were of no use: And the *Dogmatists*, for pretending to explain some things, which their then Knowledge of the animal Oeconomy, without knowing it better, and the Laws of Motion also, they could not explain;

explain; therefore they run into subtle Divisions and nice Distinctions, in order to explain them by the Principles of their favourite Philosophy, which rendered their Reasoning specious, but fallacious, erroneous, and often unintelligible, or inconsistent with the Actions and Operations of *Nature*, which *he* justly blames, and then judiciously concludes with saying, “*Igitur, ut ad pro-*
“*positum meam redeam, Rationalem quidem*
“*puto Medicinam esse debere: instrui vero ab*
“*evidentibus Causis*”.

There were several other Physicians of both these *Seëts*, whose Works are lost, except what Extracts were taken from them by *Soranus*, which we now only have in *Cælius Aurelianus*, to whom I shall refer my Readers.

The Practice of Physick, which had continued till this Time to be performed by the same Person in all its Branches, was now divided into *three* distinct Professions, the *Dietetick*, the *Chirurgick*, and the *Pharmaceutick*, which have ever since continued to be separate Professions, and practised by the *Physician*, the *Surgeon*, and the *Apothecary*.

It appears that the *Romans* were unacquainted with the *Arts* and *Sciences*, before they extended their Conquests into *Greece* and *Ægypt*; and the Physicians, which they

” Celsus in Præfat. sub finem.

they had before that Time, only practised in the empirical Manner, as the People of other Nations did in the first Ages, though they were a warlike, politick, but a rude illiterate People, as appears from their own History, till they conquered some Parts of Greece, and brought some of the *Grecian* People, which they had so conquered, into *Slavery*; among which there were not only their greatest *Princes and Generals*, but their *Philosophers and Physicians*. Hence some Authors have said, that their *Slaves* were their *Physicians*, and their *Slaves* taught their *Masters* the *Arts and Sciences*, though they could not divest them of their Superstitions.

A. M. 3731, and about 217 Years ant. Chr. *Areagathus*, a Greek Physician, came to settle at Rome, and first brought the *Greek Practice of Physick* thither, where he had great Marks of Distinction paid him; but when he came to use the *Knife and Cautey*, it so offended them, that it is said they banished him, and rather chose to make use of Charms, and their own plain empirical Practice, and such Physicians as they had of their own; neither had they any others, till above a hundred Years after this.

The *Physicians* in Greece having embraced the various different Systems of Philosophy, which had been invented some Years before
in

in their Country, and introduced them into the different *Theories of Physick*, which they had formed from, or by the Assistance of them, and thereby caused many Divisions into various *Sects* among them, as before observed. The plausible Appearances of their new-fashioned Method of philosophical Reasoning, which they had introduced into their new *Theories of Medicine*, caused many to depart from the ancient *Hippocratic Method of Practice*. Though we may very justly wonder how any thinking judicious Physicians could ever depart from so sure a Guide as *Nature* is, and from so rational a *Theory* and judicious a *Practice* as that of *Hippocrates* was, for the sake of imaginary Hypotheses, how plausible and philosophical soever they might appear to be. But alas! Such is the restless Disposition of the human Mind, and so exceeding fond are the Generality of Men of Novelty and Fashion, that they neither will adhere to known Truths, nor pursue the most rational Methods of obtaining the Knowledge of those which are as yet unknown; but every new System of Philosophy, true or false, must be embraced and introduced into the liberal *Arts and Sciences*, especially into the *Medical*.

Hence we find, that most of the Systems of Philosophy, which have been invented in different Ages and Nations, when they were

were in vogue, were introduced into the Arts and Sciences, and especially into the Medical. And instead of only taking such of their Principles or Parts, as would enable Physicians to discover and account for the Causes of Diseases, and the Methods of curing them, as *Hippocrates* did, they formed Diseases, and their Causes, to the Principles of their Philosophy, which were only imaginary or hypothetical; or at least endeavoured to do so, and so led themselves and others into Errors.

And there never have been wanting Men of Parts and Genius, to introduce such hypothetical Principles in any Age; because it is much more easy to form such plausible imaginary philosophical Hypotheses, than it is diligently to observe the Progress of Diseases, and their Symptoms, and carefully to watch, follow, and assist *Nature*; as this requires both more Time, Application, and Industry, as well as greater Penetration, more Judgment, and a more extensive Knowledge of *Nature*, and her manner of acting, in order to know *her* Indications, and how to assist *her* in the right Method of curing Diseases. And there have been others, who from too much Indolence or Pride, to servilely watch and follow *Nature* in such a manner, or were in too great haste to be rich, and being pushed on by Vanity and Conceit of their own Abilities,

Abilities, have set themselves up for Reformers of the medical Art; and having by much Flattery and great Complaisance, and some other low Arts, acquired a great Name, have imposed themselves upon the Credulous and the ignorant Vulgar, for Men of superior Abilities, and have so gained much Practice.

Such was the noted *Asclepiades of Prusa in Bithynia*, who came to *Rome* in the latter End of the Thirty-ninth Century, about 60 Years before the Birth of CHRIST, who first set himself up as a *Rhetorician*; but not succeeding according to his Desire, he applied himself to the *Practice of Physick*, which he probably had studied before: But as he had embraced the Corpuscularian Philosophy of *Epicurus*, which had been brought to *Rome* a little before that Time^a, and was then new, and much in fashion there; and as he found that *Arcagathus* had been banished from thence almost a Century before, being a *Greek*, and his Practice being thought too severe or cruel, it was much disliked, and generally disapproved of, he not only set himself up to oppose the Practice of that *Greek Physician*, but of all others; but as a Reformer of the ancient *Hippocratick Doctrine* also, which had still maintained its Ground among the more Judicious, especially in *Greece*, from
his

^a See Le Clerc. Hist. de la Med. p 392, &c. Lucret. Plin. &c.

his, till this Time : But *Asclepiades* being a Man of great imaginary Abilities, and a good Share of Eloquence, and having his Head filled with the Principles of that new and fashionable Epicurean Philosophy, he formed a *new Theory of Physick*, agreeable to the *Principles* of that Philosophy, and attempted to account for the different Natures, Causes, and Symptoms of Diseases, and to explain the Manner of their Production, by the Principles of this new revived Doctrine of *Corpuscles* and *Pores* of *Epicurus*, without either knowing the *Laws of Motion of Matter*, or giving himself the Trouble of observing the Motions and Actions of *Nature*, or whether his Inductions were consistent with and conformable to what she really did, or indicated to be done or not; as that was too servile and laborious a Work for such a sublime Genius as his was. He only changed the Epicurean Names of *Atoms* to *Corpuscles*, and *Vacuum* to *Pores*, and by these pretended to explain the Causes of all Diseases, by the different Figures, Number, or Magnitudes of them; he denied the Doctrine of Attraction, even of the Magnet and Iron; and opposed all the Opinions and Practice of the Ancients, and even of *Hippocrates*, and treated them with Contempt, and in ridicule called *his Works a Meditation upon Death*. He was much against Purging, as being offensive to the Stomach,

and was as fond of Clysters: These, Abstinence, Exercise, Bleeding, Water and Wine, were his chief Favourites in Practice; and as his chief Intention was to gain the Favour of, and to please the People, more than really to improve the Art, he opposed the Practice of *Hippocrates*, and all the other *Greek* Physicians, and particularly that of *Arcagathus*, which was then much disliked there; he therefore studied how to make his Medicines pleasant, and every thing as agreeable to the People as possible; by that, and recommending Baths, Cradles, and suspended moving Beds, he amused them very artfully; by which, and his vain Boasting, and reflecting upon the Practice of other Physicians, assisted by the subtile Jargon of his plausible Philosophy, and his Complaisance, and other low Arts, he so far ingratiated himself into the Favour of the People, that he gained a great Name, and a very extensive Practice.

Although he opposed the Doctrine of the Ancients, and of *Arcagathus*, and those of his Cotemporaries, with these self-interested Views; as also *Hippocrates's* Observations on *Nature*, and the *critical Days*, &c. which he probably neither observed nor understood, because he says *Nature* did nothing good or bad, and what was done by her was only the Effect of his *Corpuscles* or *Atoms*, and their

their Motion^b; and though he says no Effect was produced without a Cause, yet he gives no Cause of their Motion. But as he made no real Discoveries or Improvements in the medical Art, except his making Incisions in the Legs in an Anasarca or a Dropsy, to evacuate the Water; but, on the contrary, prevented or hindered the making any, either by himself or others, by introducing that corpuscularian Philosophy into his absurd Theory of Physick; as it prevented others from pursuing the rational and judicious Method which *Hippocrates* used, and by which it was and might have been improved: And the more judicious Physicians, who came after him, soon saw the Absurdness and Falseness of his imaginary hypothetical System of Physick, so that it died almost with himself, as all such Hypotheses should do.

He was succeeded by his no less noted Scholar *Themison*, who happened to have so much Sense, as to see the Errors and Falseness of his Master's philosophical Theory; but either had not so much Penetration and Judgment, as to see the Truth of the rational and judicious *Theory* and *Practice* of *Hippocrates*; or not so much Application and Diligence, as to observe, follow, and assist Nature, in that judicious

G 2

Manner

^b Cælius Aurel. de Morb. Acut. L. 1. C. 14. Le Clerc. Hist. de la Med. p. 395, &c.

Manner which *he* did. Wherefore he both rejected all Philosophy and all *Theory*, and even all Reasoning also, out of his medical System; and invented one which was without either Theory or Reasoning, if not Reason also; and pretended that it would render the Practice of Physick easy to all Capacities, without the Trouble of either observing *Nature* or Reasoning.

And in order to shorten his Work, and make it still more easy, he reduced his imaginary System of Diseases into three Heads, viz. *Adstriction or Contraction, Relaxation, and both these mixed*^c. And supposed that all Diseases were of the Nature of the one or other of these three; what Cause soever they proceeded from, whatever Nature they were of, whatever Season of the Year they came in, whatever Symptoms attended, or what Part of the Body they affected, or what Age and Constitution the Patient was of, they must be of the same Nature with some one of those three^d; and therefore were to be treated in the same manner as some one of them.

Therefore he formed his Practice agreeable to his imaginary Theory, (for so we must call it, though he pretended to have no Theory, and that it was not necessary to inquire

^c Celsus in Præfat. p. m. 15. Et quidem horum tria genera esse, unum Adstrictum, alterum fluentis, tertium mixtum.— Horum Observationem Medicinam esse, &c. ^d Le Clerc. Hist. de la Med. p. 440.

inquire into, or to know the Causes of Diseases^e) and made it to consist of three Things also, viz. *Bleeding, Purging, and Gold-water.*

Cælius Aurelianus tells us^f, that he gave Purges in all Diseases, and ordered Bleeding and Purging at any time of the Disease, without any Rule or any Regard to the Indications of Nature; so that it is no wonder that his Practice was as unsuccessful as the Poet *Juvenal* represents it, when he says,

“*Quot Themison Ægros Autumno occiderit*
“*uno.*”

He is the first that mentions Bleeding with *Leeches*^g; and that gave us the Description of making *Diacodium* from the Juice of, or by making a Decoction of the Poppy-heads and Honey; and he also mentions the Purgative called *Hiera*, but whether it was the same as that now in use, is uncertain. He is also said to have been the Founder of the *Methodist Sect*^h, who also reject all Reasoning on the Causes of Diseases, and all *Theory* of them; and pretended to find out an easier Method of both knowing and curing Diseases, as above, from whence they were called *Methodists*. They differed from the *Dogmatists*, as they rejected all Reasoning; and from the *Empiricks*, in reducing the Number of Diseases,

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and

^e Idem. Ibid. p. 439.
& Chron.
de Cephalæa.

^f Cælius Aurel. de Morb. Acut.
^g Idem. Ibid. Acutor. L. 3. C. 3. in Cap.
^h Idem. Et Celsus in Præfat. p. 15.

and the Distinctions made in them by the last; but they thought Anatomy and Philosophy intirely useleſs in the medical Art, as they gave themſelves no Trouble in inquiring into the Cauſes of Diſeaſes. *Themison* was born at *Laodicea*, ſtudied under *Aſclepiades*, and practiſed Phyſick at *Rome*, and purſued his Maſter's Method of Practice for ſome time, and did not form the *Methodiſt* Principles till the latter Part of his Life; and died in *Augustus's* Reign.

Themison had ſeveral Followers; as *Theſſalus* of *Tralles*, who was more remarkable for his maltreating and abuſing other Phyſicians, than for any Improvements that he made in the Art; though he is ſaid to have been the Inventor of the *Metaſyncrifis*, and what were afterwards called the *Metaſyncritick Medicines*, which were pretended to make a total Change of the Humours, Pores, and of the Body¹; a Word which had more Sound than Meaning, or than the Medicines had Effects: And he is ſaid to have introduced, or rather eſtabliſhed, ^k the *three Days Abſtinence* in Fevers, which the *Methodiſts* uſed.

But the moſt eminent among the *Methodiſt Sect*, was *Soranus* of *Ephesus*, who lived ſome time at *Alexandria*, and then came to *Rome*, where he practiſed Phyſick in the Reigns of *Trajan* and *Adrian*, towards the latter

¹ Vide Cæſium Aurelian. de Morb. Chron. L. 1. Cap. 1.

^k Aſclepiades uſed it before.

latter End of the first, and the Beginning of the second Century of the *Christian Æra*; and is said to have been the most able Physician of that *Seēt*: His Works, in the original *Greek*, are lost; but *Cælius Aurelianus* has given a Translation of them into *Numidian Latin*, which we shall take notice of when we come to speak of him, after making some Observations on those who lived after *Themison*, and before *him*.

. After *Soranus*, the *Methodists* became very numerous; but as they neither inquired into the Causes of Diseases, nor observed Nature, nor would reason from them, so as to obtain the true Knowledge of them, it caused Divisions to arise among them; and some other Sects also arose among them, as the *Pneumatick*, *Episynthetick*, and *Ecleētick*; if these may be called *Sects*, though they differ from some of the former, more in the Use of Terms and Words than in Facts: For, if we change the Word *πνεῦμα*, *Spirit*¹, for *φύσις*, *Nature*, the Difference between the *Pneumaticks* and *Dogmaticks* will not be very material, as they seem to mean the same thing by them, as they both reasoned nearly in the same manner upon Diseases; and the *Ecleēticks* did the same, and chose from them all what was the most rational and best. However, the *Dogmatists* adhered

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to

¹ Hence *πνευμαλικός*, Spiritual.

to the rational *Hippocratick* Method still; and *Leonides* of *Alexandria* thought the Differences among them so immaterial, that he endeavoured to reconcile and unite all the three *Sects* together, viz. the *Dogmatists*, *Empiricks*, and *Methodists*; and from this Attempt, his Followers were called *Episyntheticks*; though it seems more easy to unite the *Dogmatists*, *Pneumaticks*, and *Eclecticks*, as the real Difference between them is very immaterial.

The chief of the *Eclecticks* (unless you think *Celsus* was one) was *Archigenes* of *Apamea* in *Syria*, in the Time of *Trajan*; he died at *Rome*. And *Atheneus* of *Attalia* was the Chief of the *Pneumatick* Sect; he supposed that *Fire*, *Air*, *Water*, and *Earth*, were not the true *Elements*, but the efficient Causes of Things, and that the four *cardinal Qualities* were the material Elements; and that *Spirit* penetrated all Bodies, and kept them in their natural State: (if he had said *Fire* instead of *Spirit*, he had been nearer the Truth) But as their Works are all lost, I shall say no more on them, but pass on to,

Aurelius Cornelius Celsus, a noble Roman, who properly was of no *Sect*, though he came the nearest to the *Dogmatists*; and if we call *Hippocrates* the Head of that *Sect*, we may say he was one also, as he principally

pally adhered to and followed *his* rational Method of *Practice*.

Celsus was a Man of fine Parts, sound Judgment, and universal Learning; and no less Eloquent, as his Style is so elegant, concise, and pure, that it has always been esteemed the Standard of the *Roman* Tongue. His principal Favourite and Patron was *Hippocrates*, whom *he* generally followed with great Judgment, especially in the *Dietetick* Part of his Practice, and in his *Prognosticks* and *Surgery*; though he dissented a little from *him* in his *critical* Days, as being too much influenced by the philosophical Notions of *Pythagoras*. He sometimes quotes, and followed, *Asclepiades*, in regard to the Use of *Exercise*, but not in his imaginary philosophical Theory, nor in his unreasonable Averſion to Vomiting and Purging. And *Celsus* may be truly said to have made considerable Improvements in *his* Method of *Bleeding in Fevers*, more than *Hippocrates* appears to have done; though in other Respects, except in his not so often using the strong draſtick Catharticks, *he* seems to have followed his Method, in chiefly depending upon the dietetick Method and it, and used but few internal Medicines; but then we must consider, that their Diet in acute Diseases was Medicinal. He seems to have been the most rational, judicious, and the most able Physician

fician that came after *Hippocrates*, and so judiciously followed *him*, in most of his Practice, (or where he differed from him, it was with so much Judgment and Reason) that *he* has been frequently called the *Latin Hippocrates*. He is supposed to have lived in the Reign of *Augustus*, or *Tiberius*, however in the first Century of the *Christian Æra*, and most probably towards the Beginning of it; to which time we are now come.

Antonius Musa was Physician to *Augustus Cæsar* at the Beginning of the *Christian Æra*, and was cotemporary with *Celsus*; and is said to have first introduced the Practice of Cold-bathing into the medical Art, which should be understood only among the *Romans*; because *Hippocrates* mentions both the ψύχρα λούτρα, and the θερμα λούτρα, cold and warm Bathing 450 Years before this; And it is now well known, that many extraordinary Cures have been performed by cold Bathing, in all Ages since.

There were also several other Physicians, who were Cotemporaries with, or came soon after them, which are mentioned by *Dr. Le Clerc*; but as we do not find that any of them made any Improvements in the medical Art, we shall pass over them, and refer the more curious Reader to his learned and laborious *Histoire de la Medicine*.

We

We likewise find that a School was founded in that Part of the City of Rome called *Esquilia*, for teaching the *medical Science*; but what they did there, we have no Account of, nor whether they made any Improvements in the *Art*; unless we suppose that *Scribonius Largus*, who made some Improvements in the *Materia Medica*, and *Antonius Castor* in *Botany*, and *Fabius Papyrius* in *Natural History*, were educated there, and made those Improvements there, or soon after: And if any others did make any Improvements there, we never heard what they were. However, not long after this, the learned and industrious *Pliny* made many great Improvements in *Natural History*, with some judicious Remarks on the State of *Physick* and *Physicians*, before, and at that Time.

But we find that, in that luxurious Age, many designing Men began to invent and prepare various *Nostrums*, to which they gave very pompous Names, and thereby imposed both them, and themselves upon the ignorant luxurious People of that Age, as wonderful Medicines in all Cases, and themselves as no less extraordinary Men, and thereby gained great Riches; and he that gave the most pompous Name to his *Nostrum*, and boasted the most, was thought the greatest Physician, and acquired the most Riches: This elated them, and caused them to
thirst

thirst after Titles; and *Andromachus*, who had acquired both by his *Theriaca*, was made *Archiatr*, a Title which was never heard of among Physicians before this. The above-mentioned Divisions, into so many different *Seets* and *Parties*, among the Physicians of that Time, and so much quacking of their *Nostrums*, made every one be of one *Seet* and *Party*, or another, except *Celsus*, whose Learning, and great Prudence and Knowledge, induced him to reject and despise such Conduct, whilst most others were acting as Quacks have done in all Ages, and as some do now in this no less luxurious and fashionable Age; wherein the greater Part of Mankind are governed and led by Fashions, how weak and silly soever they may be.

About this Time, viz. in the Emperor *Claudius's* Reign ^a, a new Disease appeared at *Rome*, which *Pliny* calls *Mentagra* ^b, and says, that their Physicians were at a great Loss to know how to cure it; no wonder therefore that they sent to *Ægypt* for Physicians, who came, and by the Help of *Cauteries* got the better of it; but *Pamphilius*, a *Roman* Physician, found a Medicine afterwards that cured it as well. From whence we may conclude, that accurate Observation and just Reasoning, in the *Hippocratick* Method, were

^a He reigned from A. D. 41. to A. D. 54.
Hist. Nat. Lib. 26. Cap. 1.

^b Plin.

were forgotten and entirely laid aside : But if it be allowable to make a Conjecture from so short and imperfect a Description as they have left us of that Disease, it seems to be the most reasonable to suppose that this Disease was that Kind of *Lepra* which is described by *Hali Abbas*^c, which we now call by the *African*, or *Negro* Name, the *Yaws* ; and most probably was the *Lepra* of the *Jews*, as it so nearly resembles it, and most probably was brought from *Ægypt*, where and in most Parts of *Africa* it is indigenous to this Day, especially as they sent for Physicians from thence to cure it.

Galen says that one *Marinus*, a Physician, who lived in *Tiberius's* Reign, made some considerable Improvements in *Anatomy*, and wrote well on the *Muscles*, and on some other Parts of the Body ; but his Works are all lost. As also did *Rufus Ephesus*, who was his Cotemporary ; some Part of whose Works are still remaining, and shew that he was a good Physician.

Cotemporary with him, and in the Reign of *Vespasian*, lived the famous *Dioscorides* of *Anazarba*, whose Works are come down to our Hands : He was both a great *Botanist*, and a very able *Physician*, and made many great Improvements in the *Materia Medica*, not only in describing all the medicinal Plants,

^c *Hali Abbas Theoria*, Lib. 8. Cap. 16. See *Observat.* on the Air and West-India Diseases, p. 339.

Plants, but the Shrubs and Trees, from whence various Gums, and other medicinal Drugs are procured, especially those that were then used and known; and most of the aromatic Spices, Seeds, &c. He is the first that mentions *Antimony*, *Cinnabar*, and *Quick-silver*, and several other Preparations from Metals, as, *Minium*, *Ceruse*, *Verdigris*, &c. though these were all used externally only at that Time; and he also mentions a Sort of *Salt* made from *Vipers*, by burning them under a close Cover, which he used in his *Theriaca*.

Theophrastus, who lived about 370 Years before him, and was a great *Botanist*, had written more fully upon Plants, as a natural Historian; but *Dioscorides* wrote as a *Physician*, and proposed to treat of nothing but those whose medicinal Virtues he had experienced, and all such as were then used in the Practice of Physick; and it is said that he was so desirous of knowing their real Virtues and Effects, and of writing nothing but what he knew by Experience was true, that he frequently tried their Effects upon himself, in order to discover and certainly know their medicinal Uses, or their pernicious Effects, and at last was poisoned by taking a Dose of the *Aconitum*, or *Solanium Letbale*; and that he even described the Effects which it had, and the Symptoms which it produced, till he laid down his Pen

Pen and expired his last Breath: And thus he lost his Life, by endeavouring to discover the Means of preserving the Lives of others. It is also said that he first mentions *Sena*, *Manna*, and *Sugar*, but these were not known to the ancient *Greeks*, but were discovered by the *Arabians*; and the Account of these now in his Works are not his, but are supposed to be foisted in by some later Hand: However, it is certain that he greatly improved and enlarged the *Materia Medica*, as *Pliny* did about the same time enlarge and improve Natural History.

Celsus, *Dioscorides*, and *Pliny*, were soon followed by *Galen*, who was born at *Pergamus*, A. D. 131, in the Reign of the Emperor *Adrian*. He had a very liberal Education, and was a Man of fine subtile Parts, and much Learning; and after studying under several eminent Philosophers, and some Physicians, he went to *Alexandria* in *Ægypt*, then the most eminent School in the World for all the Sciences: There he studied Anatomy and Physick, then travelled a little into the East, and returned to *Pergamus* at the Age of 28; from whence he came to *Rome*, in the 32d Year of his Age, A. D. 163, where he met with so much Opposition from the Faculty, for pretending to know more than them, or what they did not know, so that he was obliged to leave *Rome* four or five Years after, and returned

turned to *Pergamus*, where he was not long before he was sent for by the Emperor *Marcus Aurelius*, and *Lucius Severus*, who was Emperor afterwards; and he came to *Rome*, where he continued till he died, when he was grown very old.

The Physicians then at *Rome* still continued to be much divided into different *Sects* in the *medical Art*, and no less so into Parties, in their philosophical Opinions; tho' the *Methodists* seem to have been in the greatest Vogue in *Physick*, and the *Stoicks* in Philosophy; the *Dogmatists* were also much divided among themselves, some crying up *Hippocrates*, others *Erasistrates*, and some few *Asclepiades*; the two first seem not to have differed much from each other; but the Philosophy of *Asclepiades* was too erroneous, and his Application of it, in his *Theory*, was much worse.

Galen being much more learned, and a Man of finer Parts, though he joined with none of them, yet he having greater Penetration, saw that the *Doctrine* of *Hippocrates* was the most just and rational, and his *Practice* the most judicious; therefore he generally pursued the last.

And notwithstanding that he had studied, and very well understood the rational and judicious *Theory* and *Practice* of *Hippocrates*, as it evidently appears he did, from his explaining several of the most difficult Passages
of

of his *Works*, as well, or even better than any other of his Commentators have done, especially when he observed and followed *Nature* therein, as he generally did in his Practice: If he had as strictly pursued that rational and judicious Method of observing Diseases, their Progress, and Symptoms, and had as carefully observed and followed *Nature* as *Hippocrates* always did, and had reasoned as justly and truly from those Observations, in his own *Theory* of Diseases, as that *Father of Physicians* did, or even as well as he did himself in his Practice, and in those Explanations, no doubt but he would have made several great Improvements, both in the *Theory* and *Practice of Physick*. But unfortunately for both him and all his Followers, the *Peripatetick Philosophy*, as it had been refined and subtilised by *Aristotle*, having been brought to *Rome* some Years before, and was then much in Fashion; and *Galen* being a Man of much Learning, and of as subtile a Genius as *Aristotle* was, and as great an Admirer of that Philosophy also, he readily embraced it; and being as fond of and as much in love with the fine subtile Distinctions of his *Elements*, *Temperaments*, *Occult*, and *Cardinal Qualities*, and his no less subtile Divisions of the *Humours of the Body*, he attempted to introduce them, and all the imaginary Subtilties of that *Philosophy*, into

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his *Theory of Physick*: And by the Assistance of them, he attempted to explain and account for the Causes, and the Manner of the Production of Diseases, by and agreeably to the Principles of that Philosophy, without sufficiently observing and enquiring whether those his imaginary subtile Divisions of the Elements, Temperaments, and of the Humours, really existed, and were made in the Body by *Nature* or not; or whether those their imaginary Actions and Effects, which he supposed they did produce, were perfectly consistent with the Actions and Operations of *Nature* in the Body, and conformable to what she really did, or not; by which he has frequently rendered his *Theory of Diseases* so mysterious and sublime, that in several Places it is no better than an unintelligible mysterious Rhapsody of hard Words, which have no Agreement with Nature, or what she does. So likewise, by the Use of his fine-spun Divisions of the Humours, and his Elements and Temperaments, assisted by his occult Qualities, he has explained some Passages in the Works of *Hippocrates*, into a no less incomprehensible sublime Mist, and then leaves his Readers to get out of that dark Fog as well as they can; although he has explained some other Passages so very well. Such is the Frailty of human Nature, that most Men have their Foible, and that of
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this great Genius was, his being so much in love with the *Aristotelian Philosophy*, which was then so much in fashion at *Rome*, that he formed all his *Theory* of Diseases, and his Method of accounting for their Causes, and Manner of their being produced, and sometimes for his Method of curing them also, agreeably to the Principles of that Philosophy; though to do that tolerably well, he was often obliged to form imaginary Hypotheses, and invent supposititious *Data* to reason from; the Truth of which were neither founded upon Observation or *Nature*, nor were they conformable to her Manner of acting, and sometimes were such as had no Existence, but in his own Imagination; wherefore he was obliged to support them, and his Method of Reasoning, by his subtle Definitions and imaginary Divisions of his Elements, Temperaments, and occult Faculties, and cardinal Qualities of the Humours, assisted by a plausible subtle Method of philosophical Reasoning, to make all Things and Opinions conform to the Principles of that erroneous Philosophy.

Thus the rational and judicious Method of accurately observing Diseases, and *Nature*, and reasoning justly from them, according to the *Hippocratick* Method, being intirely neglected, they began to form fine Speculations and imaginary Hypotheses, which were neither consistent with the *Laws of*

Motion of Matter, nor the *Laws of Motion of Fire*, nor conformable to the *Motions and Actions of Nature* or *Facts* (as those *Laws* were not then known). Wherefore he, by forming those fine plausible *Hypotheses*, did not only lead himself, but all succeeding *Physicians* that would follow him, as too many have done ever since, into many great *Errors* and *Mistakes*: But what is still much worse, by their having so much of the *Appearance* of being true, they diverted both *him* and *them* from pursuing the *Hippocratick* Method, by which they might have made many useful *Discoveries* and great *Improvements* in the *medical Art*, as *Hippocrates* did; and as several eminent *Physicians* have done since the *Philosophy* and *Theory* of *Galen* have been exploded.

As *Galen* was a Man of Genius and great Learning, as well as great Industry, he is said to have written above five hundred Books in *Physick*, and near half as many more in *Philosophy*, and the other *Sciences*: His Education and great Abilities set him above the Level of his cotemporary Brethren, which induced him to take too great Liberties with them and their *Deficiencies*, and probably rendered him too self-sufficient; which consequently procured him their *Ill-will*, and much *Trouble* from them, and probably was the Cause of his leaving
Rome;

Rome; but being sent for by the Emperor, it replaced him above them and their Malice, though they might give him some Trouble.

And although we can say nothing in favour of his Philosophy, and may wish that he never had either invented or published his *Theory of Physick*, yet we must allow that he made some considerable Improvements, both in *Anatomy* and the *Materia Medica*, and when he adhered to the *Hippocratick Method*, in the Practice of Physick also. No doubt but he had seen human Bodies dissected at *Alexandria*, though that was not allowed of at *Rome*; yet what he had seen there, he improved by dissecting Apes, and other Animals, though he was led into some Mistakes thereby, as the learned Anatomist *Vessalius* judiciously observes*, yet he made some considerable Improvements in that Science, and more in the *Materia Medica*: He improved the Use of Opiates and Anodynes, and the Practice of Bleeding in Fevers, in some inflammatory Cases, and appears to have bled more freely, and in greater Quantities, than they did before his Time; and he is the first that wrote professedly on the *Pulse*, and distinguished its various different Vibrations, &c. but in his *Reasoning upon them*, as well as upon the *Virtues and Effects of Medicines*,

as also upon both the more simple, and his too much compounded Preparations; the Operations of all which he pretended to account for, by the Assistance of his *Peripatetick* philosophical *Principles*, which generally led him into Errors and Mistakes, or else into such sublime mysterious Distinctions and minute philosophical Divisions of his *Elements*, *Temperaments*, and *Cardinal Qualities*, as either rendered his Reasoning quite unintelligible or useless.

So that notwithstanding that he made some of these considerable Improvements in the medical Art, yet we must confess that he did more Injury to the Profession, and hindered its Progress and Improvement, more by his inventing and introducing his imaginary Hypotheses and his unintelligible subtile Divisions of his *Elements*, *Temperaments*, and *Cardinal Qualities* into his *Theory of Physick*, than any other Physician ever did; so that he may be looked upon as the first and chief Introducer of imaginary philosophical Hypotheses into the *Theory of Physick*: For as to the Hypotheses of *Asclepiades*, and the Notions of *Themison*, and the *Methodists*, without reasoning, they were so absurd and inconsistent with both *Nature* and *Reason*, and with the rational and judicious *Theory* and *Practice* of *Hippocrates*, that they were rejected and exploded by the more rational and judicious Physicians

cians of all Ages ; and as for the Opinions of the other *Seets*, they generally sunk into Oblivion, with the Philosophy whose Principles they were each founded upon. But both the *Philosophy* of *Aristotle*, and the *Hypotheses* and *Theory* of *Galen* built upon it, were so plausible, and carried such an Appearance of true Reasoning, and such an Air of Truth with them, joined to so much subtile Reasoning, which rendered them so agreeable to the Principles of the *Aristotelian Philosophy*, which was then and many Ages after so much in fashion, that they easily deceived and imposed themselves upon all Mankind, and were received by them as being true, both then and many Centuries after.

And accordingly we find from the Works of all the succeeding Physicians and Philosophers, that not only the Philosophy of *Aristotle*, but the new philosophical *Theory of Physick* of *Galen* were generally received and followed by all ; not only at *Rome* and in *Italy*, but they were both carried a few Centuries after into *Arabia*, *Persia*, and *Ægypt*, and they only were professed there ; and soon after were brought into *Spain* by the *Saracens*, and were spread soon after that into all the *European Nations* that retained, or had any Learning, and were received, professed, and taught in all their most noted *Schools*, and continued to be so

till the sixteenth Century, or after, when the great Lord *Verulam* detected the Errors of that Philosophy, and instructed Mankind how to think and how to reason, in order to discover and know Truth.

Cotemporary with *Galen* was *Cælius Aurelianus*; he made a great Figure at *Sicca*, a City in *Numidia* in *Africa*, A. D. 180^a. His Book on *Acute and Chronical Diseases*, is generally allowed to be a Translation of the Works of *Soranus* of *Ephesus* from the *Greek*, as he says himself^b. He is the only Author now extant that gives us any tolerable Account of the Works of those ancient Physicians, who were of the *Methodist Sect*; as, *Diocles Caristus*, *Praxagoras* of *Coos*, *Erasistratus*, *Herophilus*, *Serapion* of *Alexandria*, *Heraclides Terentinus*, *Asclepiades*, *Themison*, *Thessalus* of *Tralles*, and *Soranus*; whose Works are now all or most of them lost; but he has given us many Quotations, and some considerable large Extracts from them, and a pretty full Account of their Principles, and their general Method of Practice, from whence we may form a tolerable Judgment of their Method of treating Diseases.

They were pretty exact in distinguishing, and describing the Symptoms of Diseases; but they objected against all Reasoning, and enquiring

^a See Dr. Le Clerc. Hist. de la Med. de Morb. Acut. Lib. 2. Cap. 1.

^b Cæl. Aurel.

enquiring into the *Causes of Diseases*, or into the Structure and Use of the several Parts of the Body that were affected in Diseases, in order to find out their Cause, or to discover the most judicious Method of curing them by Reasoning, unless the Causes were self-evident, which very seldom happens, except in some few particular Cases: In this they seem not to differ much from the *Empiricks*. But they thought that all Diseases were of one of those three Kinds before-mentioned^c, and therefore should be treated in the same Method as some one of those three.

Both *Soranus*, *Cælius*, and all the *Methodists* in general, frequently used Vomiting, Bleeding, Fomenting, Anointing, and prescribed various Kinds of Exercise; and were particularly careful in their Choice of the Air for the Sick, as in directing a large cool Chamber for them, in hot inflammatory Diseases in a hot Season, which they also cooled more, by strowing green Leaves, or sprinkling Water in it to cool it^d, (a Practice which the learned *Boerhaave* also recommended^e in his Lectures, and to which he also added the placing such Plants as exhale much in Jars of Water in the Room of the Sick, and which I have often used with great Advantage, both in the hot Climate,

^c See before p. 84, 86, &c.

Acut.

^d Cælius Aurel. de Morb.

^e In Prælect. in Aph. 743, & 866, 890, &c. &c.

Climate, and in the warm Seasons in *England*.) They also ordered a close warm Chamber, made warm by the Sun or a Fire, in cold Cases.

But they were too much averse to *Purging*, (except in a *Dropsy*) and to sharp *Clysters*, *Diureticks*, and *Narcoticks*, and the Use of *Cauteries*, and all painful Remedies, (which last they probably took from *Asclepiades*.) They also objected against all *Specificks*, which when enquired into is only another Term for our Ignorance, or we know not how they act. They generally ordered a strict Abstinence from all Food ^f, liquid or solid, for three Days, at the Beginning of Fevers (an imprudent Practice) but some of them moderated this to two Days afterwards. It is very probable, that *Cælius* never saw any of *Galen's* Works, nor *Galen* any of his, as they lived at such a Distance from, and never mention each other. And notwithstanding that they rejected all Reasoning, his Works have many useful Remarks, and some good Methods of Practice in them; therefore those who desire to see them, may read his Works, which he would do with more Pleasure, if they were translated out of that barbarous *Numidian* Latin into *Roman* Latin.

It is uncertain at what time *Aretæus Cappadox* lived, though most probably about the

^f Cæl. Aur. Ibidem.

the time of *Domitian*, towards the latter End of the first Century; or what *Sect* he was of, as *Sects* were much in fashion then at *Rome*: But as it is most probable that he lived at *Cappadox* in *Cappadocia*, and mentions no Authors but *Hippocrates* and *Homer*, and generally follows the Method of *Reasoning* and *Practice* which the first did, he seems to come the nearest to that which *Galen* makes *Hippocrates* the Head of, the *Dogmatists* ^e; and from his enquiring into, and reasoning upon the Causes of Diseases, and deducing his rational Methods of curing them ^h, he seems to come the nearest to them (if he must needs be of some *Sect*); however it is certain from thence, that he was neither *Methodist* nor *Empirick*. The learned Dr. *Le Clerc* makes him a *Pneumatick*, but the learned Dr. *Boerhaave* and Dr. *Wiggan* seem, after examining his Reasons for it, and the Opinions of several other learned Authors, to leave the Matter as uncertain; neither is it material; probably Dr. *Le Clerc* thought so from *Aretæus*'s using the Word Πνεῦμα, *Spiritus*, in the same Sense which the *Pneumaticks* did, as he does in some Places, as when he speaks of the Angina Convulsiva ⁱ, &c. ^k but in others he seems to use it in the same Sense as *Hippocrates* used the Word Φύσις, *Nature*; so he also

^e Galen de Method. Med. Lib. 3. ^h Aretæi Opera in variis locis. ⁱ Aretæi Capp. in Cap. de Angina, p. 5, &c. ^k Idem. pag. 121. et p. 80, &c. &c.

also makes use of the same Methods and Medicines which the *Empiricks*, the *Methodists*, *Dogmatists*, and *Episyntheticks* did; and also chose out such Methods and Medicines as he thought were the best, and most proper for the Disease which he wanted to cure, as the *Eclecticks* did; and for the same reason we may conclude, that he was of all, or of any of those *Sects*. But what is the most probable is, that he was neither of any of those *Sects*, nor had seen any of their Works, or so much as heard of them, as he lived at so great a Distance as *Cappadox* in *Asia Minor* was from *Rome*; as Books were not so easily got before printing was invented, nor were they so dispersed over different Nations as they have been since; neither does he mention any medical Author but *Hippocrates*, whose Works he very well understood, and whose Method of Reasoning and Practice he seems to have judiciously followed: For he must have accurately observed Diseases, and all their Symptoms, as he has so elegantly and concisely described them¹, that the Reader sees the very Picture of the Disease, as if the Patient was before his Eyes, and with all the Elegancy and Politeness of the *Ionic Style*. In the whole he has followed and imitated *Hippocrates*, both in his Method of observing Diseases,

and

¹ Aretæi Cappad. de Causis et Sign. Morb. Acut. et de Morb. Acut. Curatione.

and has improved the Method of describing them; as also in his Method of Reasoning from their Causes, and the Parts principally affected in them, in his Practice; and he improved the Method of Bleeding in inflammatory Diseases, and seems to have taken greater Quantities of Blood from his Patients, and repeated it oftener than *Hippocrates* did in those Diseases^m, and gives his Reasons for it, though in a short manner. He and *Galen* are the first that advised and used Arteriotomy. He is also the first that used *Cantharides* externally, to raise Blisters, or as Vescicatories: And he first fully describes the *Elephantiasis*, or *Lepra Arabum*. He made several other new Improvements in the Practice of Physick; in all which he gives his Reasons for so doing in a very concise and elegant manner: Therefore if he must be placed among some of the *Sects* then in vogue, he has the most right to be placed with *Hippocrates* among the *Dogmatists*; though in reality they were neither of them of any *Sect*, but both of them pursued a very rational and judicious Method of Practice, which was founded upon very accurate Observations, and a just Method of Reasoning.

The learned Dr. *Daniel Le Clerc*, having with indefatigable Industry and much Learning favoured us with the History of the first

^m Idem. Ibid. in Curation. Morb. Acut.

first Rise and Progress of the *medical Art*, and a very curious Account of the first Inventors and Improvers of it, from the time of *Hermes Tresmagistus* of the *Greeks*, the *Mercury* of the *Latins*, the same with *Thoth* of the ancient *Ægyptians*, and the *Patbrusim*, or *Canaan*, of the *Scriptures*, down to the Time of *Hippocrates*, a Space of 1350 Years, or more : And then with a learned and accurate History of *Hippocrates*, and the Physicians who came after him, down to the End of *Galen's* Time, about 600 Years more ; in which he has given us so full an Account of their *philosophical Opinions*, and their different *medical Theories* and *Systems*, as well as their various *Methods of Practice of Physick*, and the Improvements which they made therein, that there is scarce an Opinion, a Disease, a Medicine, or a Method of Cure, or even an *Author* to be met with any where among the Ancients, which he has not given us a full Account of, down to the End of *Galen's* Time, whom he places some time after *Areteus Cappadox*, though it is most probable that they were Cotemporaries : But I shall not spend my Time in critical chronological Disputes, as it is of no Importance to the Improvement of medicinal Knowledge. But that learned Physician being called to a higher Office by his *Prince*, he had not Leisure to proceed on with his *History of Physick*,

Physick, as he intended ; he therefore drew up a short Plan for the Continuation of it, to assist those who might afterwards undertake the Continuation of it, in which there happens to be a few chronological Mistakes, with which the learned Dr: *Freind* finds great Fault ; but if the *Doctor* had been a little less severe in his Criticisms upon it, it would have been better, as it was not intended as a Continuation of his History, but only as a short Plan for continuing it, (as he calls it) and probably was drawn up in haste.

It appears from History, that the *Roman* People of that and the preceding Age were arrived to an exceeding great Height in all Manner of Luxury, and continued to be so to the End and Downfal of the *Roman* Empire ; and as Luxury and Effeminacy increased, Liberty, Learning, and all the Sciences decreased, which probably might help to hasten its Destruction. However after this Time, we meet with few learned Men at *Rome*, and no learned Physicians among the *Romans*, nor with any of their medical Works, and but with a very few indifferent Historians.

Those few Physicians who lived after this Time, and all their medical Works which are come down to our Hands, were all *Greeks*, who were not such Slaves either to *Luxury*, or their *Emperors*, as the *Romans* were

were to both, and to their *Popes* after them, as we shall soon see.

Let us then inquire what Improvements those *Greek Physicians* made in the *medical Art*; and then inquire into the Cause why Learning, and all the *Arts and Sciences*, fled out of *Europe*, during so many Ages, into the *East*; and follow them thither, to see what Reception they met with in the Eastern Countries among the *Arabians*, *Persians*, and other *Mohamedans*.

Those *Greek Physicians*, whose Works are come to our Hands, from whence we only can know what Improvements they made in the *medical Art*, are, *Oribasius*, *Ætius of Amida*, *Alexander of Tralles*, *Paul of Ægina*, and *Actuarius*.

Oribasius was born at *Pergamus* in the Beginning of the fourth Century: He first studied in the School of *Zeno the Cyprian*, at *Sardes*, and then went to *Alexandria* in *Ægypt*, where he finished his Studies, and afterwards became an eminent Professor there, about 150 Years after the Death of *Galen*, and was esteemed the greatest Scholar and Physician of his Time.

He wrote 70 Books of Collections, which he chiefly compiled from the Works of *Galen*, and the other Physicians who preceded him, and his own Experience, at the Desire of *Julian the Emperor*, about A. D. 360; of which the first 15 are now only remaining,

successful he had found it in a Suppression of the Menfes, Headaches, Giddiness, Difficulty of breathing, and in a Defluction upon the Eyes. This Method of Scarifying is still practised by the *Ægyptians*, and is fully described by *Prosper Alpinus*^c: He says, “ They make a Ligature under the Ham, “ then put the Leg into warm-water, and “ rub it well; then beat it with Reeds to “ make it swell, and then make large “ Scarifications.” But bathing the Legs in warm-water, and bleeding in them, is much less painful, and may make as great a Revulsion. He also first describes a peculiar kind of Madness, which he calls *Ανθρώπινα*^d, which probably was more frequent in those warmer Countries, or in that Age, than it is in ours; as it is also mentioned by *Ætius*, *Paulus*, *Actuarius*, and some others, who lived and wrote soon after him; and it most probably is the same Disease which is called *Demoniack* in the Scripture^e, from its *Arabian* Name *دemoniack*, and has been also described by some more modern Authors, *Donatus ab alto Mari*^f, and *Forestus*, tho’ it’s seldom or never seen now.

Oribasius was a Man of Genius, Learning, and much Experience, and a voluminous

^c Prosp. Alp. de Med. Ægyptior. Lib. 3. Cap. 8. ^d Orib. Coll. 8. 10. ^e St. Luke, Cap. viii. 27. Mark, Cap. v. 3. ^f See Dr. Freind’s Hist. of Phys. p.

nous Writer, tho' he wrote much less on Surgery, than either *Hippocrates*, *Celsus*, or *Galen* have: And if he had had less of the *Galenical Theory*, and more of the *Hippocratick*, and more concise like *Aretæus*, his Works would have been more valuable.

The next Physician of note, that we meet with after him, is *Ætius*, who was born at *Amida*, a City in *Mesopotamia*, but studied Physick at *Alexandria* in *Ægypt*; and is supposed to have been a *Christian*. He wrote sixteen Books on Physick and Surgery, which he principally compiled from the Works of his Predecessors, which have been since divided into four Books, from thence usually called *Τετραβιβλοι*. He lived in the latter end of the fifth Century, probably about A. Dom. 480. He writes with more Perpicuity, and treats on more Diseases, and describes them, their Symptoms, and their Method of Cure, more fully than *Oribasius* did; but both their Descriptions are much short of, and inferior to those of *Aretæus*. And altho' his Works are voluminous, yet he says but little on the Structure or Use of the different Parts of the human Body; and is much inferior in his Surgery, to either *Hippocrates*, *Celsus*, or *Galen*, and even to *Oribasius*; and much more so to that of *Paulus* of *Ægina*, who lived some Years after him. He mentions the above-named Kind of Madness, and advises mak-

ing the above-mentioned Incisions in the Legs in the same Cases; and he also describes in his Surgery the Operation of Castration very well, and more exactly than any before him; (but that Operation in making Eunuchs, had been long practised in those eastern Countries).

He is the first that made and describes *Issues* to drain off bad Humours; and he made them with a Cautery, in various Diseases, and sometimes in so many Parts of the Body, and in such Parts^b, as seem to render the Remedy as bad, or sometimes worse than the Disease; altho' the use of the Cautery was well known to *Hippocrates*, and others long before; but not *Issues*. He also describes some new Diseases, which no Author has described before; as the *Draunculus*, or the *Vena*, or *Nervus Medicenensis*, now called the *Guinea-worm*; tho' some suppose that he takes it from *Leonides* of *Alexandria*: *Galen* also mentions it, but says he had only heard of it in *Arabia*, but had never seen it: *Leonides* probably had seen it in *Ægypt*; and it is as probable that *Ætius* might have seen it in *Persia*, as it is no less frequent in some parts of that Country, than it is in *Arabia* and *Africa*: And *Rhazis*, who lived there afterwards, has described it, and its Method of Cure, and so have

^a *Ætius* Tetrabib. Lib. 2. Cap. 2. 28.
Cap. 4. 64. Lib. 4. Cap. 2. 24, 25, &c.

^b *Idem*. Lib. 2.

have all the other *Arabian Physicians*, more fully than the *Greeks* did, as we shall see.

He is very full in describing, as well as in using external Applications; as, *Unguent*s, *Cataplasm*s, and *Plaster*s, and particularly the last, of which he has a great Variety, some of which he seems to have been too fond of, and extols too much, as may be seen in his *Works*ⁱ, or in Dr. *Freind*'s *History of Physick*^k. He also gives us the best Account of the *Ægyptian Pharmacy*, that we have any where; and he has collected many Receipts of the most famous *Nostrums* then in vogue, chiefly with a design to expose them; and their *Authors*, for imposing them, and themselves, upon the Ignorance, and Credulity of the People; he says, that one *Danaus* sold a Collyrium to wash sore Eyes with at *Constantinople* for 120 Numismata; and *Nicostratus* sold an Antidote he had for the Cholick, which he prophanelly called *Isotbeos*, for two Talents^l. Thus he gives us several Instances of the Dishonesty of such Pretenders, who impose their *Nostrums* by the means of great Promises, and pompous Names, upon the well-meaning ignorant People, by which they gain great Riches; till their *Nostrums* are known, and then they shew the Kna-

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very

ⁱ In *Tretrabib*.

^k *Hist. of Physf.* p. 62, &c. 1.

^l Two Talents of Silver, is 375 *l.* Sterl. if of Gold, is 4500 *l.* either is a very dear Dose.

very of those that sell them, and the foolish Credulity of their Purchasers; and are soon lost in Oblivion together with their Authors: For Quacking in that luxurious Age seems to have been almost as much in fashion, as it is now in these no less luxurious Days.

Not long after *Ætius* lived *Alexander Trallianus*, who was born at *Tralles* a City in *Lydia*, near to *Ionia*, where the *Greek Tongue* still continued to be spoken more pure than in many other Parts of *Greece*: He had travelled much in quest of Knowledge, and was a Man of Learning, much Practice and Experience, and great Probity, and Reputation; and his Works have more the Appearance of an original Author, than any since *Hippocrates*, except *Aretæus*. These two eminent Physicians, and *Celsus*, have pursued the *Hippocratick* Method of observing Diseases, and their Symptoms, and his manner of Reasoning, as well as Writing, more carefully and exactly, than any of the Ancients have done. His manner of Writing is clear, his Style concise, his Language good *Ionick Greek*, his Method judicious, and entirely his own; neither was he so much influenced by the Peripatetick Philosophy and Theory of *Galen*, as *Oribasius* and *Ætius* were, tho' the last had not so much of it as the former: So that if he followed any Authors, it certainly was *Hippocrates* and *Aretæus*. He has left us twelve
Books

Books on Diseases, in which he accurately describes Diseases and their Symptoms, as *they* did; and is no less accurate in investigating, and explaining their *Causes*; and as judiciously describes the right Intentions, and the most proper Methods of curing them.

He is also very careful and exact in distinguishing and describing the *Diagnostick Symptoms* of such Diseases, as much resemble, and are very like to each other^m: All which he seems to have taken from his own accurate Observations and just Reasoning. He neither formed any Hypotheses of his own, nor admitted those of *Galen*, or any other Physicians, but generally adhered to the *Hippocratick* Method of observing, and his own just manner of Reasoning; and whenever he differs from the *Antients*, in any thing, he freely gives his Opinion, and his Reasons for his dissenting from them, when he has sufficient Cause for it, like an honest Man; not from a Desire of contradicting, but for the sake of Truth, and being right. He shews his Disapprobation of the *Hypothetical Theory of Galen*, and his Methodⁿ, like a wise and judicious Physician, and often gives very judicious and good Reasons for his doing so. He generally not only clearly explains his Intentions

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and

^m Vide Alex. Trall. de Calcul. & Morb. Chol. Lib. 9. Cap. 4. Et de Pleurit. & Hepatit. Lib. 6. Cap. 1. &c. Et de Lien Schirros, Lib. 8. Cap. 10. ⁿ Alex. Tral. Oper. Lib. 6. Cap. 1. Lib. 12. Cap. 1. 6, 7, 8.

and Method of curing Diseases, but he also gives his Readers good Cautions, what they should avoid doing, as the honest Dr. Sydenham did; which few other Physicians have done: And is a Method, as Dr. Freind well observes^o, *which if all other Writers had as exactly followed, might have been of as much use to us, as many of their positive Precepts.* As such Observations are to all succeeding Physicians, like so many Buoys placed by the Sailors, for all that come after them, to avoid those Rocks and Shoals.

He is not only full, and clear in describing Diseases, their Causes, and the true Intentions of curing them; but he is more exact and full in the *Therapeutick* Part, than any of the Physicians who went before him were. In a *Causus*, attended with a *Syncope*, from a Redundancy of Humours, (a *Plethora*) he advises Bleeding, and gives good Reasons for it; tho' both *Hippocrates*^p and *Aretæus*^q, had given the same Advice before; yet both *Oribasius*^r, and *Ætius*^s, who wrote some time before him, were afraid to use it; and *Cælius Aurelianus* says, "*Phlebotomiam nihil jugulatione differre ratio testatur*:" But *Alexander* gives us the Diagnostick Symptoms of it, before the Syncope comes, and advises Bleeding, and Frictions,

^o Dr. Freind's History of Physick. ^p Hippoc. de Rat. Vict. in Morb. Acut. 4. 23. ^q Aretæi Cap. Oper. In Cur. Morb. Acut. Lib. 2. Cap. 3. ^r Orib. Opera de Syncope, Lib. 7. 26. ^s Ætii Tetrabibl. Lib. 2. 1, 96. ^t Cæl. Aurel. Morb. Acut. Lib. 2. Cap. 38.

Frictions, which he says will prevent its coming: Which is also confirmed by *P. Salius*, who wrote very well upon this sort of Syncope^u, and says that no Author mentions it before him; therefore we must conclude that he had not seen *Alexander's* Works, who has written very judiciously and fully upon it^w, and deserves the Attention of every Physician. He strongly recommends giving Vomits before the Fit, in Intermitting Fevers; a Method which is mentioned by the Antients, but is not sufficiently insisted on by them, tho' generally practised either before or after the Fit.

He describes a Phrensy and its Symptoms accurately, and shews that it does not proceed from an Inflammation of the Diaphragm, as was then supposed, but of the Brain; for which he orders bleeding in the Arm and Forehead; and gives Diacodium, but not without sufficient Precautions. In a Parotis, and also in an Inflammatory Quin- cy, he advises Bleeding copiously, and repeats it three or four times, in the last, if necessary: And I think is the first that mentions opening the Jugular Veins. He then advises the Use of Repellents to the Part, at the beginning of the Disease; but if they do not soon begin to disperse the Swelling, he orders Suppuratives and Emollients, but not till he finds they will not disperse.

He

^u *P. Salius de Affect. Part IV. Opera de Syncope.*

^w *Vide Alex. Trallian.*

He also mentions a *Tubercle* in the Lungs, which causes a Difficulty of breathing, without a Fever, or Expectoration; (*Galen* also mentions the same) especially in scrophulous Patients, which usually ends in an *Atrophy*, with an Hoarseness, or in a *Phthisis*. He likewise first mentions a *Stone* coughed up out of the Lungs. Such I have also seen, and one in particular which was shaped like the Branches of the *Bronchia*, and was broken off from those Branches left behind, as evidently appeared; it was variegated in Colours like, and as hard as Marble; the Patient died after some time in a perfect *Phthisis*, and from the Symptoms which attended, it is most probable that he had a considerable Quantity of that stony Matter in his Lungs.

In Fevers, he advises Bleeding, and a liberal Use of cooling, diluting, thin Liquors, as *Ptyisan*, *Hydromel*, &c. as *Hippocrates* did; which is the most rational Practice. He is the first that mentions a *Βέλινος*, or immoderate Hunger, arising from Worms; and mentions a Woman who was cured of it by taking *Hiera*, and voiding a Worm about 12 Cubits, six Yards long; this is the first mention that we have of the *Tænia*, or Tape-worm; he also mentions the *Ascarides*, and *Teretes*, the short, small, and long round Worms, in his Epistle to *Theodorus*, on Worms, and describes the Methods of killing them, and curing the Patients. He also first describes

describes the Virtues of Steel given inwardly, and recommends it both in *Infusion*, and in *Substance*, in a *Schirrus Spleen*^a. It is well known that the Rust of Iron was given many Ages before^b; and both *Celsus*, and *Dioscorides*, and *Pliny*, also made use of a hot Iron quenched in Water or Wine, in a Dysentery, and likewise to prevent the Spleen from growing too large. He also mentions *Rhubarb* as a Restraining, which most probably was the *Rha-ponticum*, and with which the *Antients* were well acquainted; though the *Rha-barbarum* was known not long after. Bleeding in a Fit of the Stone, Dr. *Freind* says^c, “ is no
“ where so much insisted upon, as by Alex-
“ ander; which, he says, is a very judicious
“ Practice, especially if there be at the same
“ time a Suppression of Urine^d.” To which we may add, if it be attended with Inflammation, as it generally is, more or less. There are several other Things mentioned in his Practice, which are very well worth our Notice; as he seems both to have observed, and described Diseases, more accurately than any of the *Antients* since *Hippocrates*, if we except *Celsus* and *Aretæus*; and he reasons more justly and truly, in investigating their *Causes*, as also in discovering the most judicious Methods of curing them; so that he may be truly esteemed

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^a In Lib. 8. Cap. 13.
Physick, vol. 1. p. 120.

^b See before.

^c History of

^d *Idem*, *Ibidem*.

one of the best practical Writers, and made the most Improvements in the medical Art, of any of the *Antients* since *Hippocrates*, whose Method of observing, reasoning, and Practice he closely followed.

Alexander mentions several Physicians who lived a little before, or were Cotemporaries with him; and gives us a great Character of one *Jacobus Psycbrestus*, who was a Physician of great Reputation and Learning; and also his Scholar *Asclepiodotus*, who revived the Use of *White Hellebore*, which was then become quite out of use, tho' it had been so much used by *Hippocrates* and the *Antients*: And is now as much out of use as ever it was, or more so; as it is so violent a Medicine in its Operation; and the modern Discoveries have supplied us with others, which are more safe, and probably as efficacious.

Dr. Freind mentions several Physicians who lived near the same time, and were most of them eminent Men in their Profession; but as we have not any of their Works, nor any Extracts from them, that are of any Importance, or that inform us of any Improvements that they made in the medical Art, I shall pass over them, and refer the more inquisitive Reader to his learned History of Physick, and come to the next and last of the *ancient Greek Physicians*.

Paulus Ægineta, who was born at *Ægina*, an Island in the Gulph of *Athens*, in the latter end of the sixth Century. He first studied Physick in *Greece*, and then went to *Alexandria* in *Ægypt*, which was then, and had been from the time of the Declension of the School at *Coos*, the most famous School in the World for studying the Arts and Sciences, especially *Physick*, almost for a thousand Years, and there finished his Studies about the Year 620. He travelled much in the quest of Knowledge, and was a Man of great Learning. The *Peripatetic Philosophy*, and the *Theory of Galen*, then in fashion, were his Favourites, tho' he has not given us much of any *Theory* in those *Seven Books of Physick*, which we now have of his. The first treats on the Disorders of pregnant Women, and on those of Nurses, and young Children, and I think are the first that are expressly written on those Subjects; and then he proceeds to treat on other Diseases, till he arrives at those of old Age, and on Diet. The second treats on Fevers, and all their different Kinds, most of which he has compiled from various Authors. The third is on the Diseases of all the different Parts of the Body, in which he begins with those of the Head, and ends with those of the extreme Parts; the 76th Chapter of which, is *De Partu Difficili*, on which he is not very

very full, but rather too short. The fourth is upon Cutaneous Diseases, Ulcers, and other external Diseases; he begins with the *Elephantia*, or *Lepra Arabum*, most of which he takes from *Aretæus*, and has not written so full and well upon it as he did; and he ends that Book with the *Dracunculus*, or Guinea-worm: He says it is bred in the superior Parts of *Ægypt*, and in *India*; I suppose he means *Æthiopia* and *Arabia*, joining upon the southern Parts of the *Red-Sea*, as it is chiefly found there, and in the *Persian Gulph*, and now also on the Coasts of *Guinea*. He is the first after *Ætius* whose Works are come to our Hands, that fully describes this Disease: He says that *Soranus*^a described it, and called it a *Nerve*, as all the *Arabian Physician* do, *إرْك مَدِينِي*, *Irk Medini Nervus Medinensis*, and not *نُورَا مَدِينِي*, *Nocra Medini Vena Medinensis*^b, as their Translators have called it, but are mistaken, which was five hundred Years before him, viz. about A. D. 100. It was also mentioned by *Leonides*^c, whose Works are lost: And from hence we learn, that *Cælius Aurelianus* has not given us a Translation of all *Soranus's* Works, as he does not mention it; *Galen* also mentions it^d, but says he had only heard of it in *Arabia*, but had never seen it, as the learned Dr.

Freind

^a Paul. Æginet. Opera, Lib. 4. Cap. 59.

^b Both the Words *Nocra*, and *Almadid*, signify a Vein; and *Irk*, a Nerve.

^c Idem. Ibid. ^d Galen. Opera Locis Affect. Lib. 6. Cap. 3.

Freind also observes^d. His fifth Book treats on poisonous Animals, and Insects, and their Bites, or Stings; and on Poisons, and their Method of Cure. His sixth Book is upon Surgery, and its *Operations*, in which he is more full and clear than any of his Predecessors are. What *Theory* he has, is chiefly that of *Galen*, but he reasons very little or none on the Causes of Diseases; and even his Descriptions of Diseases and their Symptoms, are much shorter than those of *Oribasius* and *Ætius*, and much more imperfect than those of *Aretæus* and *Alexander*; altho' he takes most of what he writes on Diseases from them, or from *Hippocrates*, *Galen*, or some other Physicians, yet he is not so full and clear in describing them and their Symptoms, as most of them are: Neither do we meet with any thing that was then new, or with any Improvements in his Practice of Physick. But in his sixth Book on Surgical Operations, we meet with some things which were then new, and were not mentioned before by any Author, and some Improvements on others: He is in general very exact in describing the manner of performing the Operations; as in cutting for the Stone, he orders the Incision to be made obliquely, in the manner as Professor *Rau* did, and the Moderns have done since; and not directly along the Perinæum. He distinguishes

^d History of Physick, Vol. p.

tinguishes a *Bubonocèle* from an *Entrocele*, and both of them from a *Bubo*, very exactly; and describes the several different Kinds of *Hernia's*, and distinguishes that which proceeds from a *Rupture* of the *Peritonæum*, from that caused by a *Distention* of it; and describes the different Operations, and Methods of curing them; and he first described the external Lamella of the *Peritonæum*, and that it formed a Coat over the spermatick Vessels, which he calls *ἐλικοειδής*: As also in the Cure of a *Hydrocephalus*, and the Operation of the *Paracentesis*, both in the Thorax and Abdomen, which he also carefully describes. He likewise accurately describes an *Anurisme*, and distinguishes the two different Kinds of it, a *Rupture* of the Coats of the Artery, from a *Distention* of them, and describes their Method of Cure. He also invented, or first describes a *Scarificator*, with three Lancets, to make three Incisions at once; and frequently used Cupping. He frequently used *Arteriotomy*, as also did *Galen*, long before his time. And he is the first that advises and practised *Bronchotomy* in a *Quincy*, but he takes it from *Antyllus*, whose Works are lost; and we find that it is an Operation which was afterwards practised by *Albucasis*, the *Arabian*. *Paulus* is also the first that describes the Method of delivering a Woman of a Child,

Child, both in the natural Way^a, and when in a preter-natural Labour; and first mentions the Use of the *Hook* or *Crotchet*^b, and the crooked Knife, to cut, or divide a monstrous or dead Child with, which cannot be brought away whole; and in the next Chapter^c he treats on bringing the Secundine, or After-birth away, when it is left behind: From whence it has been thought, that he practised Midwifry; and the learned Dr. *Freind* says^d, that he is the first Instance upon Record of a professed *Man-midwife*, because he says, “he was so called by the *“ Arabians.”* I suppose the *Doctor* must mean *Abul-Pharajus*, who only says, “—
“ Paulus Ægineta Medicus suo tempore ce-
“ lebris: Insigniter autem peritus fuit in
“ Mulierum Morbis, multumque illis curæ
“ impendit. Convenire ipsum solebant obste-
“ trices, & eum de rebus, quæ mulieribus post
“ partum acciderent, consulere, quibus respon-
“ dere dignabatur, & quid facerent in iis
“ de quibus quæsierant indicare; unde eum
“ لا تقي كوابلي Al-Kawabeli, obstetricem, man-mid-
“ wife, appellabant.” From whence one would conclude, that he did not practise it, but only instructed the midwives how to act in such difficult Cases, and directed what Me-
 dicines

^a Paul. Æginet. Lib. 3. Cap. 76.

^b Idem. Lib. 6.

Cap. 74.

^c Idem. Cap. 75.

^d History of Physick,

vol. 1. p 159.

^e Abul. Pharaj. Histor. Comp. Dynasti-

arum, p. 114.

dicines they should give; neither does *Paulus* say that he practised it.

From which however we see that he very well understood the obstetrick Art, whether he practised it or not; as well as all the other, even the most difficult Operations in Surgery, and no doubt had frequently performed them: And hence we may judge how well the Ancients understood, and to what Perfection they had brought the Practice of *Surgery* in *Paulus's* time; which was about a thousand Years after that of *Hippocrates*: And when we come to compare them with those of the present Age, notwithstanding all the Assistances which the Moderns have had, from the many great Discoveries which have been made in Anatomy, the Knowledge of the Structure, and Use of all the different Parts of the Body, the Circulation of the Blood, the Use and the Application of the Chyle to restore the Fluids, and the Solids, the Use of the Bile, and all the other Fluids; the Secretions, Excretions, and Evacuations by insensible Perspiration and Sweat, &c. and a Knowledge of the Laws of Motions; when we consider all these Advantages, which the Moderns have had, and compare all those few Discoveries and Improvements, which the Moderns have made in the thousand Years which have passed since *Paulus's* time, with all those Discoveries and Improvements
which

which were made in the thousand Years before his time, they appear to be very inconsiderable: however we must allow that the Moderns have made some Improvements in that time.

These being the last of the ancient *Greek* Physicians, whose Works are come down to our Hands; and we meet with none of the Works of any of the *Roman* Physicians or Surgeons, or of those of any other European Nation, either near this Time, or for some Centuries before, that are of any Value: Let us therefore inquire a little into the Cause of this great Declension of all sorts of Learning; and why all the *Arts* and *Sciences*, which are so useful to Mankind, were so much neglected; and how Mankind who had once known the Value and Use of them to the human Mind, possibly could suffer them to be almost entirely extinguished, and let themselves sink into such a State of Superstition and Ignorance, as they really did.

A moderate Share of Inquiry into History, will inform us, that the State of Effeminacy and Luxury, which we left the *Roman* Empire involved in, a few Pages before, in order to inquire into the State of *Physick* in *Greece*, still continuing, and gradually increasing, easily influenced Mankind to prefer Pleasures and Ease, or rather Idleness, to Labour and Learning; the last not being to

be obtained without the first, Pleasures were preferred to all other Things.

And we also find that *Christianity* had not been long established in *Europe*, especially in *Italy*, before the Purity and Simplicity of that *Religion* began to decline; and as it declined, *Priestcraft* began to increase, and continually gained Ground, till in a few Years time, the *Popes* established themselves; soon after which they, and their *Priests*, began gradually to raise themselves by various Arts, above the rest of Mankind. The Effeminacy, Luxury, and Indolence of the People, and the Love of Power and Riches in the *Popes* and *Priests*, in a short time induced them to set themselves up not only for spiritual Guides, which they had pretended to be, for a great Number of Years, but for *temporal Princes* also; and *Christianity* was in a little time changed into *Popery*; and both the *Popes* and *Priests* soon began to aggrandize themselves with Power and Riches: And they quickly saw, that the most effectual Way to gain those much desired ambitious Ends, would be to keep all Learning and Knowledge, as much as they possibly could, from the Laity; well knowing, and clearly seeing, that *Ignorance* was the most proper, and the most fertile Soil, to produce *Credulity*, *Superstition*, and *slavish Obedience* in; and consequently would be the most effectual Way to obtain their
Designs

Designs of aggrandizing themselves with *Power, Riches, and Authority*. And accordingly we find that it was not long after the setting up the *Popes* in the fifth Century, before all *Learning*, and all the eminent Schools began to decline, and every Branch of Learning, especially in *Philosophy, Physick, and Law*, soon began to be neglected, and to decline also; and Mankind, in a few Generations, sunk into the greatest State of dark Ignorance and Superstition; *Arts and Sciences* were little known, and the *Roman Empire* was put an end to, and the *Pope* was established not only as a *temporal Prince* in *Italy*, but by the Assistance and Arts of his *Priests*, he reigned triumphantly over the Wills, Minds, and often over the Fortunes, of the Subjects of most of the *Potentates and Princes* in *Europe*. And Ignorance and Superstition reigned as triumphantly over all the People, so that all the Arts and Tricks of Priestcraft were imposed upon them, as, and when they pleased, with what other Impositions they thought fit to put upon them; and the poor ignorant *Laity* readily swallowed, and believed, all that they were bid to believe.

During this long Time of Ignorance, we neither meet with any Account of any learned Men, or the Works of any Men that were eminent for their Learning in *Physick or Philosophy*, or in any other of the

Sciences, except the few above-mentioned *Greek Physicians*, the *Byzantine Historians*, some of the *Fathers*, and a few others, who lived in the *Greek Empire*, and such other Places as were out of the Jurisdiction of the *Popes*, and a few *Priests* who were their *Tools*; for we find that even the Generality of the *Monks* themselves were at last become almost as ignorant and illiterate as the rest of Mankind; so that from the middle of the fifth Century, to the latter End of the fifteenth, may be truly called the Ages of Ignorance and Superstition, under the Bondage of the *tyrannical Government of Priestcraft*.

Thus Learning and the Sciences sunk and groaned under the Oppression and Bondage of Ignorance and Superstition, so long till neither human *Reason*, *Learning*, or *Liberty* itself, could bear the Oppression any longer; wherefore *Learning* and the *Sciences* took their *Flight* out of *Europe*, and fled into the *Saracen Empire* in the *East*, where they met with a more favourable Reception; and were much encouraged and improved by some of their *Emperors* afterwards, as we shall see.

Although Learning and the Sciences were thus neglected, and at last banished out of *Italy*, and all the other Parts of *Europe*; yet some small Remains of them were still preserved in some Parts of the *Grecian Empire*.

pire, and in some few Places in the East. But we find that they were cultivated nowhere so much as they were at *Alexandria* in *Ægypt*, where all the *Sciences*, especially *Physick*, had been taught, and all its different Branches studied, ever since the Decline of the *medical School* at *Coss*, to the Time of the Destruction of that City, and the burning of its famous Library by *Amrou Ebnolaas*^a, General of the *Saracen* Army, and of the Califf *Omar Ebnol Chatab*, in the 20th Year of their *Hegira*, and A. D. 640, a Space of almost 900 Years; during which Time it continued to be the most famous School in the World, for the Study of *Physick*, and continued to be so, even after the burning of its Library, to the Middle of the eighth Century: In which School we find that all the above-mentioned *Greek Physicians*, after *Celsus*'s time, had their Education, with several others, not here mentioned. But we find that the *Arabian* Califf, soon after that, began to erect Schools, one at *Antioch*, and another at *Haran*, in A. D. 721, where the Study of *Physick* was much encouraged; and the Professors of it there began to translate the Works of the *Greek Physicians* and *Philosophers* into the *Syriack* Language; which were afterwards translated again into *Arabick*^b. And *Aaron*,

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^a Abul-Pharaji Hist. Dynast. p. 114. Ed. O. cii

^b Idem. Ibid. p. 127.

a Presbyter of *Alexandria*, had before this written his thirty Books on *Physick* in the *Syriack* Tongue, which he calls the *Pandects*, before the Year 620; which *Pandects* were translated out of the *Syriack* into *Arabick*, by *Maserjawabius* a *Syrian* Jew, and a *Physician* in the Reign of the Califf *Merwan*^c, about A. D. 683; for now the *Arabians* began to cultivate the *Sciences* and study *Physick*.

And we also find, that about 350 Years before this, *Sapores* King of *Persia*, having married the Daughter of the Emperor *Aurelian*, he sent some *Greek* Physicians to attend her in *Persia*; upon which *Sapores* built the City of *Jondisabur*, now called *Nisabur*, and a School there, in *Chorasana* in the north-east Part of *Persia*, where they taught the *Hippocratick Physick*^d. Here *George Bactishua*, an eminent Physician, was educated, and was sent for to the Califf *Almanzur*^d when he was dangerously ill; and having cured him, he was sent home with great Honours, and 10,000 Pieces of Gold.

Of this Family of the *Bactishua's*, *Abulpharajiu* mentions three or four Generations who were all successively Physicians, as in that of *Æsculapius* and *Hippocrates*; some of whom translated the Works of several of the *Greek Physicians* into *Arabick*. And the *Arabian* Califfs soon after acquired a Taste of, and became great Encouragers of Learning,

^c *Abul-pharaj. Hist. Dynast. p.*

^d *Idem. p. 144.*

ing, especially *Almansur*, *Rasbid*, and *Al-mamun*, and founded several Colleges both at *Bagdad*, *Hamadan*, and in some other Cities; and invited learned Men of all Nations, whether *Jews*, *Christians*, *Mohamedans*, or *Sabeans*, and especially the *Greeks*, to come and teach the *Sciences*, particularly *Physick*, there: And accordingly we find that several learned Men came; and the Califfs by their Assistance, more especially by *Al-mamun's* applying to the *Greek Emperors* to send him all the *Books* in *Physick* and *Philosophy* which they could procure; they obtained the Works of *Hippocrates*, *Galen*, *Oribasius*, *Ætius*, *Paulus*, *Aristotle*, *Plato*, *Ptolomy*, and several others; and it is probable that many Books were saved from the Flames at *Alexandria* by the Learned, which were now brought to light again, as the Califfs greatly encouraged, and liberally rewarded those who brought them, as well as those who translated them into the *Arabick Tongue*. They also procured all the astronomical and mathematical Instruments that they could, as well as Artificers to make them: So that all the liberal Arts and Sciences were studied and improved as much as possible by the *Arabians*; altho' the *Greek Tongue* was not well understood in those Colleges, or but by few, till *Honain Ebn. Isaac* an eminent *Physician*, and a *Christian*, in the Reign of *Al-mamun*,

came

came to *Bagdad*; where being ill treated by *Yabya Eben Mesue*, *John the Son of Mesue*, he went into *Greece*, and acquired a perfect Knowledge of the *Greek Tongue*, and then returned into *Persia*, where he made himself Master of the *Arabick Language* also: Then he returned to *Bagdad*, where he was in great Favour with the Califf *Almotto-waccel*¹. *Honain* was the Son of *Isaac* an Apothecary at *Hira* in *Syria*, and was a Man of great Learning, and a Master of the *Syriack*, *Arabick*, and *Greek Languages*; and it was to him, and his Sons, that the *Arabians* were indebted for the Translations of the Works of *Hippocrates*, *Galen*, *Aristotle*, *Euclid*, and *Ptolemy*; he is said to have lived to the Age of one hundred Years.

From these Schools, or Colleges, came most of the eminent *Arabian Physicians*; *Yabya Eben Serapion*, i. e. *John the Son of Serapion*, *Mohamed Ebn Zachariaa Abubeter al Rhaxis*, *Mohamed the Son of Zacharia*, the Father of *Peter of Rhaxis*; *Haly Abbas*, *Eben Sina*, or *Avicenna*; *Johannes Mesue of Damascus*, *Alkindus*, *Ebengneset*, and many others, which are mentioned by *Abul-pharajius*²; both Physicians, Philosophers, Astronomers, and Geographers, and learned Men in all the other Sciences; altho' the learned *Renaudaut*, and the learned Dr.

¹ Abul-pharaji. Hist. Dyn. p. 172.

² Idem. p. 172.

³ Ibidem ibid. p. 66, &c.

Dr. Freind, both find great fault with the Incorrectness of those Translations, and not without Reason, when they are compared with the Originals with a critical Eye: But it probably will be found that their Translations into *Arabick*, have suffered much more Injury by being translated out of *Arabick* into that barbarous Latin, which both they and the Works of the other *Arabian Physicians*, were translated into afterwards, in *Italy*; especially if that of *Avicenna* be compared with the Original; which is said by Judges to be written in pure *Arabick*. However it must be allowed that the *Arabians* had more Learning, and gave much more Encouragement to the Cultivation of the *Sciences*, than any other Nation or People at that time did, when Ignorance and Superstition reigned over all Europe: And we shall find that the *Europeans* are indebted to the *Arabians* for preserving, and also re-introducing Learning, and the *Sciences*, among them again.

Haly Abbas has given us the best and fullest Account of the Works of all the *Arabian Physicians* who lived before him. He also mentions those of *Hippocrates*, *Galen*, *Oribasius*, and *Paulus*, and quotes them often; but he does not mention *Aretaeus*, *Ætius*, *Celsus*, *Soranus*, nor *Leonides*, nor any of the other *Greek* or *Roman Physicians* above-

^a *Haly Abbas Theor.* p. m. 6.

above-mentioned; whence we may conclude that he had not seen any of their Works.

The first Author that he mentions after the *Greeks*, and who he calls *Moderns*, is *Aaron of Alexandria*, who lived about 350 Years before him, and probably was a *Syrian*, as he wrote in the *Syriack Tongue*; and is placed as the first that wrote in *Physick* among the *Arabians*, about A. D. 620. His thirty Books, which he called *Pandects of Physick*, were translated by *Maserjawaihus* a *Syrian Jew* and *Physician*, into *Arabic*, about A. D. 683; in which he had clearly described the *Small-pox*, and the *Measles*, with their *Pathognomonic Symptoms*, and is the first Author that mentioned those two remarkable Diseases, which probably first appeared and were taken notice of at *Alexandria* in *Ægypt*, soon after the *Arabians* came and took that City, in A. D. 640, in the Reign of *Omar Ebnol Chatab*, the second Successor to *Mohamed*¹. But both those original *Pandects*, and their Translation, are now lost, and we have nothing of them remaining, but what *Mohamed Rhaxis* collected from them, and has left us in his *Continens*; so that we have no certain Account where those two Diseases first appeared; but it is most probable, that it was in *Arabia Fælix*, and were brought

¹ Abul-pharaj. Hiff. Dyn. p. 114.

brought from thence to *Alexandria* by the *Arabians*, when they took that City, A. D. 640^k; for *Paulus* of *Ægina* lived at *Alexandria* at or soon after A. D. 620, and says, he has wrote on all the Diseases that were then known^l, yet neither mentions the *Measles* nor *Small-pox*; therefore it is probable that *Aaron* did not finish his *Pandects* till after the Year 640, that the *Arabians* had brought those Diseases thither, as they carried and spread those Diseases wherever they extended their Conquests afterwards: Westwards into *Spain*, about 30 Years^m after that, and eastwards, so that they were brought to *Japon*ⁿ soon after. *Haly Abbas* says^o, that *Aaron* wrote upon most Diseases, and their Causes and Method of Cure, and on the *Small-pox* and *Measles*; but he finds fault with him, because he says too little on things natural, and non-natural, and for his saying nothing on the Preservation of Health, or on Surgery.

The next that he names is *Messue*, not *Messue* of *Damascus*, whose Works we have, and who lived long after his time; but *Messue* of *Nisabur*, in *Chorasana*, an eminent Physician, and a Christian, who lived at *Bagdad*, with whose Works *Haly* finds the same Faults as he did with *Aaron's*, and also

^k See our Account of it in the Treatise of the Small-pox, p. 7, &c.

^l Paul. Æginet. Opera in Præfatione.

^m Ockley's Sarac. Hist.

ⁿ Kempher's Hist. of Japon.

^o Haly Abbas, Theor. Lib. 1. p. 6.

also with his want of Method. *Abi Osbaia* says *Messue* wrote thirty-seven Books, most probably in the *Syriack* Tongue also, which are all lost.

The next is *John* the Son of *Serapion*, who could not be *Serapion* of *Alexandria*, who lived 800 Years before his time; because this *John Serapion* treats on the *Small-pox*, which were not then known. He also wrote a Treatise on Diseases, and describes their Symptoms and their Causes, and the Methods of curing them by Diet and Medicines; but *Haly* finds fault with him also, for not doing the same more fully on the *Small-pox*, tho' he mentions them^p; as also for his omitting many Diseases, as those on the Eyes, the *Elephantiasis*, and several others, in which he blames *Serapion's* Method of treating them^q. From what both *Haly* and *Rhazis* say of, and quote from this Work, we may find that it is the same with that Work which we now have under the Name of *Yakya Eben Serapion*, or *John the Son of Serapion*, who is often quoted by *Rhazis* in his *Continens*; and first mentions cutting for the Stone in the Kidnies, but did not practise it himself. But the Treatise on simple and compound Medicines, which is now added to this Work of *Serapion's*, which we have now, is not genuine. And we find that *John Serapion* lived both after

^p *Haly Abbas*, Theor. p. m. 6.

^q *Idem*. Ibid.

after *Messue*; *Gabriel* the Son of *Bactishua*, and after *Honain* the Son of *Isaac*, because he refers to several Medicines used by them; and *Honain* was Physician to the Califf *Almotawacel*, who died before the Year 862*. This *Honain* often quotes and transcribes out of *Alexander of Tralles*, which none of the other *Arabian* Physicians have done: *Abul-pharajius* mentions above twenty other Physicians who were eminent in their Profession†, but have not left us any of their Works behind them that are come to our Hands.

The next Physician *Haly* mentions, is *Mokamed Eben Zacharia Abubetri al Rhazis*, who was born at *Rbei* a City in *Gborasana*, in the Year 852, and died A. D. 932‡ at the Age of 80. He was a very learned Man, well versed in all the Sciences, a great Chemist, and an able Physician. *Abu Osbaia* says he wrote 226 Treatises§, some of which were of *Alchymy*; and we have two large Volumes, which he called his *Continens*, which seem to have been designed for a Common-place Book, as it is without that Order which his other Works have, as the ten Books which he addressed to the *Chaliph Almanfur*, which he designed as a compleat Body of Physick, and is as compleat

* *Haly Abbas*, Theor. p. m. 6. † *Ibidem* Hist. Dynast. p. 163, &c. ‡ *Dr. Freind's* Hist. of Physick, vol 2. p. 46.
 § *Abul-pharaji* says A. Heg. 320, which answers to A. Ch. 940. Hist. Dynast. p. 191.

pleat a System of Physick as any we have among the *Arabian Physicians*, or even among the *Greeks*, for many Centuries before him; and is the first regular System of Physick, and the best that was published by the *Arabians*. And as he was well acquainted with the Works of *Hippocrates* and *Galen*, and most of the other *Greek Physicians*, he has taken from them what he thought was the most useful and necessary, especially from the first; and altho' he was a great Philosopher, and no doubt was well acquainted with both the Philosophy of *Aristotle* and the *Theory of Galen*; yet he has much less of the *Galenical Theory* in his Writings, than the other *Arabians*, more especially than *Haly Abbas* and *Avicenna* have: And as he did take many things from the other *Greek Physicians*, as they had taken from *Hippocrates* before, yet we may find both several new Diseases, and new Medicines, which were not known to any of the *Greek Physicians*, nor are they mentioned by any of them, nor by any other Physician, (except some of them which are mentioned, but not so well described, or treated on, by *Aaron* and *Serapion*); wherefore he may be truly said to have made some considerable Improvements in the *medical Art*, both in first describing those *new Diseases*, and their *Method of Cure*, and acquainting us with the *Virtues and Uses of those*

those new Medicines, which were not known to the *Greeks*, as we shall see.

In his ten Books addressed to the Califf *Almansur*, the first is upon the Anatomy, and the Structure, and Use of all the different Parts of the Body: The second is on the Temperaments, Complexions, and Humours of the Body; in treating on which he is a little too much influenced by the *Theory of Galen*: The third is on the Nature of Aliments, and on the Virtues of simple Medicines: The fourth is on the Method of preserving Health; and has several good Rules for it: The fifth is on cutaneous Diseases, and their Cure, and upon Cosmeticks; but it is much wished that he had been a little more full and clear in describing them; he treats on the *Lepra Arabum*, which seems to be the same Disease which *Aretæus* and the other *Greeks* call the *Elephantiasis*; but the *Elephantiasis* of the *Arabians* is a very different Disease, as we shall see hereafter: The sixth treats on the Regimen, and proper Kinds of Diet, of those who travel much by Sea or by Land; and he first mentions those that are snow-blind, and how to prevent it; and how to treat those who are frozen with Cold, that they may not lose their Fingers or Toes; and how to cure them when putrified by it: his seventh Book is on Surgery, and treats on Wounds, Ulcers, Luxations, and Frac-

L

tures,

tures, and on Surgical Operations; in which he treats on the Scrophula, and a Cancer, and the *Ignis Persicus*, which is a Species of the *Eresipelus*; and in Chapter 24th treats on the *Vena Medinenfis*, and its Method of Cure. It is also mentioned by *Galen*, who says he never saw it^w, and by *Paulus of Ægina*^x; but *Mohamed Rhaxis* calls it *نرف مدينى* *Nervus Medinenfis*, and *Nervus Civilis*, and not *وينا* *Vena*, and so do all the other *Arabian* Physicians, but their Translators by Mistake call it *Vena Medinenfis*.

The eighth treats on all the different Kinds of Poisons, and the poisonous Bites of Animals, Serpents, and Insects, and their different Methods of Cure.

The ninth treats on all the different Diseases which the human Body is subject to, from the Crown of the Head to the Sole of the Feet, and the various Methods of curing them, in 94 Chapters; in which he treats on all chronical Diseases known, and some acute Diseases, as a *Phrenitis*, *Apoplexy*, *Quincy*, *Asthma*, *Pleurisy*, *Peripneumony*, a *Cholera Morbus*, an *Inflammation of the Stomach*, of the *Kidneys*, of the *Cholic*, and a *Dysentery*, and on the *Stone* and *Gout*. And in the 93d Chapter he treats on the *Elephantia* or *Elephantiasis*, not that Disease which

^w Galen. Locis Affect. Lib. 6. Cap. 3.
^x Opera, Lib. 4. Cap. 59. p. 48.

^x Ægineta

which is so called by the *Greeks*, which is the *Lepra Arabum*, and is a very different Disease from the *Elephantia* which he speaks of here; and also in *Lib. Divisionum* Cap. 107, and is the first Author that mentions this Disease; but neither *Rhazis*, nor any of the other *Arabian* Authors, have described the Disease from its first Accession of its Symptoms, and the Manner of its coming on, and its increasing; but have only described it in its full-grown State; wherefore I have endeavoured to describe it and its Method of Cure^v.

In his tenth Book he treats on Fevers, and divides them into sixteen different Kinds of Fevers, which he distinguishes by their different Causes, Symptoms, Accessions, Durations, and Effects which attend them; and also on the different Methods of curing them, besides the Fevers attending the *Small-pox* and *Measles*: And he then treats on the different Methods of Diet, and the proper Regimens to be used in those different Fevers, in Cap. 34, 35. In Cap. 19. he says, "*Quisquis febrilium & acutorum morborum congruam Vietus rationem assequi voluerit, ante omnia discutiatur, morbus ne salutaris an exitialis, brevisne, an longus, an Crisim sit habiturus, an citra hanc finiturus. Qua die sit Crisis ventura, &*"

L 2

"*cujus*"

^v In the Observations on the Air and Epidemick Diseases in Barbadoes, p. 304.

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“ *cujus speciei sit futura; & quomodo Ægro-*
 “ *tanti ante decretorium, in ipso decretorio,*
 “ *post decretorium & usque ad terminum, &*
 “ *sequenti etiam tempore vivendum sit, sciat*
 “ *omnino oportet.*”

Then he describes, “ *Quæ sint, salutare*
 “ *in ægritudinibus Notæ in Cap. 20. Et in-*
 “ *salutare Ægritudinum Notæ in Cap. 21.*
 “ *In Cap. 22. De cognoscendo mora Febris.*
 “ *Cap. 23. De Agnitione temporum Febris.*
 “ *Cap. 24. De conditione digestionis. Cap.*
 “ *25. De crisi, seu decretorio. Cap. 26.*
 “ *De Signis indicantibus Crisim. Cap. 27.*
 “ *De cognoscendis speciebus evacuationis, per*
 “ *quam fit Crisis. Cap. 28. De signis Prog-*
 “ *nosticantibus bonam Crisim, vel malam, vel*
 “ *perfectam, vel inchoatam. Cap. 29. De*
 “ *diebus decretoriis.*” And then he gives us
 three Chapters on the Signs and Progno-
 sticks, taken from the Urine, Stools, and
 the Pulse, in which he is much more mi-
 nute, and even tediously full, than any that
 wrote before him; tho’ Galen says a great
 deal on the Pulse: Rhazis describes ten dif-
 ferent Sorts of Pulses, and describes them,
 and the Consequences which they indicate
 or prognosticate; and concludes his ten
 Books with describing the proper Regimen
 for the Sick in those Fevers, and ends with
 treating on the Diet suitable to restore their
 Health.

He then gives us a Treatise on the *Small-pox* and *Measles*, which is the first Treatise written on these Diseases now extant. He clearly describes all their Symptoms, and their Progress, and the Method of curing them. His Translator calls this Book *Liber de Pestilentia*, which treats on them as one Disease, or as two different Kinds of the same Disease; tho' both *Rhazis* and the other *Arabians* distinguish them by two different Names *إِدَارِي* *Iódari*, the *Small-pox*, and *خَشْبَاب* *Chasbab*, the *Measles*; yet they wrote on them as one Disease, the first as being more putrescent, the other more inflammatory: And altho' he had treated on these Diseases in the 18th Chapter in the 10th Book, and in the 159th Chapter of his *Lib. Divisionum*; yet in this *Treatise*, which contains 15 Chapters, he is much more clear and full in describing them, and all their Symptoms, as well as all the different Kinds of *Small-pox*. He first describes the epidemical Constitution of the Season^a that produces them; then the different Symptoms of those two Diseases^b; then how to prevent being infected, or how to render them more moderate, and mild, and less malignant^c; then how to expel the morbid Matter to the Surface of the Body^d, and cure them; how to assist their Suppuration, and

L 3 turning

^a Moham. Rhazis de Pestilent. Cap. 1. ^b Idem. Cap. 4.
^c Idem. Cap. 5. ^d In Cap. 6, 7,

turning into Scabs^e, and is very careful in preserving the Eyes. He then describes the proper Regimen in them^f, and takes great Care to keep the Body temperate; and advises Bleeding, or Purging, or both, when the Symptoms indicate them in the Beginning of the Disease; but forbids them during the time of their Eruption and Maturation^g: He describes^h the different Kinds of *Small-pox*, and *Measles*, and calls them two Diseases; he mentions the large distinct Kind, and the confluent, *alia in aliis*, and the *parva alba, velut verrucæ humore vacua, sunt improba*; and the *viridia & violacea, & nigra, cuncta perniciofa*. And he speaks of the second Fever, and says, "*Quod si febris augeatur post excretionem pestilentia est atrox si vero purgatur, est clemens morbus*"; and he gives his Reasons for it. In Lib. Divison. Cap. 159. he says, "*Morbillus autem est majoris timoris quam Variolæ, nisi in oculo.*" In both these Diseases he dilutes plentifully with cooling acid Liquors, and gives *Acids* of the vegetable Kind copiously; he also uses cold Bathing, to forward the Eruption of both the Measles and Small-pox, which probably in the warm Climate of *Persia*, where he practised, might abate the Heat and Violence of the Fever, and assist the Eruption also, though it may not

^e Moham. Rhazis de Pestilent. Cap. 9, 10.

^f Cap. 13.

^g In Cap. 14.

^h In Cap. 15.

not be adviseable, in this our colder Climate; so that his Regimen in these Diseases was full as cold, or even colder, than that of Dr. Sydenham's.

In the 25th Chapter of his 4th Book, he gives us several excellent Rules how to avoid or prevent pestilential and epidemical putrid Fevers, which are very judiciously adapted to that Purpose, more especially in the hot Climate of *Persia*, where he practised; and may be equally as useful in all other warm Countries, and in ours in the warmer Seasons of the Year, if prudently used; in which he recommends the Use of vegetable Acids, as various Kinds of *acid Robs*^h made from acid Fruits, such as Pomgranates, Oranges, Lemons, &c. and their Juices; as also Vinegar, *الرَب* *Al-raib*, Sour-milk, or Butter-milk, which must be allowed to be a very judicious Practice, as all those Acids are the most powerful, and the best *Antisepticks*. And in the next Chapter he treats on the different Regimens to be used in the different Seasons of the Year: And in the 27th on the Diet of Infants: And in the 28th on the Regimen of Women in Child-bed, and on the Method of facilitating their Labour: And in the two next on the Choice of Nurses, and their Diet; as also on that of Infants, more fully; and then on the salubrious Diet of

L 4

Adults,

^h *Rob*, a Quidany, or an Extract or acid Jelly.

Adults, and all others; and concludes that Book with Directions for the Choice of a Physician; in all which he lays down several judicious and very good Rules.

In the 25th Chapter of his 6th Book, he treats on the *Lepra Arabum*; as also in the 120th Chapter of the *Divis*. Tho' he is very short in his Description of it, and its Symptoms and Appearance, (probably as it was but too well known in that Country) and describes the Method of curing it, which is as short and imperfect: And he says, “*Si*
“*huic ægritudini statim subveniatur ex quo*
“*incipit, ut sanetur vel reprimatur possibile*
“*est. Sed postquam membra vulneraverit,*
“*ac eorum corrumpit figuras, fortasse non*
“*sanabitur.*” This seems to be the same Disease which *Aretæus Cappadox* calls *Ἐλεφαντίασις*, and is the first that describes it; and also says it is a Disease which is exceeding difficult to cure, when taken at its first Appearance; but when it is further advanced it was incurableⁱ; and so also says the learned Dr. *Lomius*^k. Tho' some Improvements have been made in the Method of curing this loathsome and dreadful Disease, since the Virtues and Use of *Antimony* and its Preparations have been discovered^l.

In the 9th Lib. and 93d Cap. he treats on the true *Elephantiasis*, which is a very different

ⁱ Aretæi Opera, Cap. 13. p. 13.

Med. p. 53.

^k Lomii Observat. Observat. on the Air and Epidem. Disease in Barbadoes, p. 322.

ferent Disease from that above-mentioned, and proceeds from a very different Cause^m, and is of as different a Nature; and it is wished that he had described its Cause and Manner of Production, as well as its first Ståte, more fully than he has; tho' he has in a brief manner described it in its full-grown State, so as to be easily known by those who have seen it.

He also treats pretty fully on the Diseases of the Joints, and is the first that accurately describes a *Spina Ventosa*, and clearly distinguishes it both from a *Τεχνών*, or carious Bone, and from a *Pædarthrocase*, which usually affects the Middle or somewhat distant Parts of the Bone from the Joints; but the *Spina Ventosa* usually, or always, affects the *Epiphyses* of the Bone; and lastly, he treats on the *Gout*, and its Method of Cure.

He then treats on the Diseases of Children, and is the first Author that has wrote expressly and fully on all the Diseases of Children, and describes them, and their Causes, and their Method of Cure.

In the 7th Book, Chap. 21, he describes all the different Methods of Bleeding, and all the different Veins, and their Situation, which they opened in the Operation of Bleeding at that time; and minutely describes the proper Method of opening them

^m See the same at p. 304, &c.

them in each Part of the Body; and if an Artery chances to be opened by the Ignorant instead of a Vein, he tells us how it should be treated and cured; and describes the Method of *Cupping* and bleeding with *Leaches*; and minutely describes the Method of making Incisions and applying Cauteries to any Part of the Body.

And after his six Books of *Aphorisms*, he gives us his Book *De Antidotis*, or *Pharmacopœa*, in which there are several Medicines which were *new*, and were not known to the *Greeks*; as most or all the milder cooling Purgers, as Manna, Cassia-fistula, Tamerinds, Myrobalans, Rha-barbarum, Agaric, Sena, Tartar, Sugar, and several of the cooling Fruits; and Syrups, Robs, Con-serves, &c. made from them; with several other *Antiphlogistick Medicines*, and a cooler Regimen. He also first mentions several Aromaticks and Spices, and other most valuable Medicines, as Nutmegs, Cloves, Zedoary, and some of the Peppers, Cubebs, Turbith, and the Lesser Cardamoms, Ginger, Musk, Amber, Ambergrise, and Camphor; Dates, Liquorice, and many other medicinal Plants that were not known before. And he adds a Treatise on the Method of preparing Medicines, so as to render them more grateful and pleasant to the Patient's Taste.

And

And he is the first that mentions, or used any chemical Medicines, and introduced the chemical Art into the medical : He first introduced the Art of distilling Aqua Rosarum, Rutæ, &c. and first mentions Oleum Amigdalorum, and various other Oils, and some Preparations from Minerals or Metals, and various other Medicines and Simples, which were not known to the *Greek Physicians*, or at least are not mentioned by any before him.

Rhazis was a Man of great Learning, indefatigable Industry, and great Experience; and besides the Books before mentioned, is said to have wrote several Books in Philosophy, and twelve in *Alchemy*, or *Chemistry*, as well as these in *Physick*; by which he greatly improved medical Knowledge, in most if not all its Branches, insomuch that most of the succeeding *Arabian Physicians* who came after him, have not done much more than copy from him; what Improvements they have made, I shall endeavour to take notice of. I have been more full in mentioning several of the Discoveries and Improvements which he made, because I think the late learned Dr. *Freind* was too short in treating on him, and his Works, in his *History of Physick*; especially as *Rhazis* was the first Author (except *Serapion*) that we have, who introduced the medical Art, and wrote well upon it, among the *Arabians*,

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ans, who were but two Centuries before a
barbarous illiterate People, and all Learning
at that Time was neglected and lost in all
other Nations; and it is sincerely wished
that we had as good and elegant a Transla-
tion of all his Works, as the late learned
Dr. Mead has favoured us with that of *his*
on the Small-pox.

About forty Years after *Mohamed Rhazis*,
lived *Haly Abbas*, or *Ali Ebnol Abbas*, as
Abul-pharajius calls him^a; he is usually
called *Magus*, as being one of the *Magi*,
the Followers of *Zaradusht* or *Zoroaster*,
and not for his Learning, as the learned
Dr. Freind supposes. He was a *Persian*,
and studied under *Abu Maher* another *Per-*
sian Doctor, who probably was of the *Ma-*
gian Religion also: He wrote his Book, or
Royal Work, at the Request of *Bowaia*^b the
Son of *Adado'ddaula* the Califf, to whom
he dedicates it in the oriental Manner, in
lofty hyperbolical Language, about A. D.
980. It was translated into Latin by *Ste-*
phen of Antioch in A. D. 1127, in which
Language we now have it. He seems to
have taken most of what he says from *Rha-*
zis, or might have done so; nor do we find
that he has made any Improvements upon
Rhazis, or his Predecessors, tho' he finds
some Faults with all their Works, even
with those of *Hippocrates*; and his *Theory* is
altogether *Galenical*, from whence no great
Improve-

^a Abul-pharaj. Hist. Dyn. p. 214.

^b Idem. Ibidem.

Improvement in the Art could be expected. Neither do we find any thing new in him, unless we suppose that he means and describes that Disease which is now called the *Yaws*, in his *Cap. de Lepra*^c, as he has described both the Kinds of the *Arabian* Leprosy in the preceding Chapter, under the Name of *Elephantia*^d, as it is translated; and this his *Lepra*, or the *Yaws*, seems to be the *Leprosy* of the *Jews*^e.

About twenty Years after *Haly Abbas*,^c flourished the eminent *Abu Ali Al Hosain Abdalla Ebn Sina*^f, commonly called *Avicenna*; he was born at *Afbana* in *Chorasana*, A. D. 978, and studied at *Bocara*, not far from it, a City famous for the Cultivation of the Sciences both then and several Ages after^g. He was a Philosopher, Mathematician, and an eminent Physician; he is said to have written above a hundred Volumes^h, of which we now have only his *Canones Medicinæ*; he chiefly copies after *Galen*, *Rhaxis*, and *Haly Abbas*; his *Theory* is the same as *Galen's* was, and he is no less subtle and minute in the Definitions of his Temperaments, and the Divisions of the Humours, &c. than *he* was; and in his Practice he generally follows *Rhaxis* and *Haly Abbas*, and sometimes some of the *Greeks*, tho'

^c Vide *Haly Abbas*, in *Thoria*, Cap. 16. *Practic.* Cap. 4. Cap. 15. Cap. 3.

^e *Observ.* on the Diseases of the West-Indies, p. 339.

^f *Abul-pharaj. Hist. Dyn.* p. 229.

^g *Hist. of Genghizcan*, p. 218. ^h *Ben Calican in Vasya-talayan*, in *Genghizcan*, p. 218.

tho' he does not in all things intirely copy after them; for he first mentions the *bloody Urine*, and *bloody Stools*, which sometimes attend a bad kind of *Small-pox*, and the *Quincy*, which sometimes comes on in the latter end of the Disease, which are very bad, and often fatal Symptoms; and he advises Bleeding at any time of the Disease, when a Plethora and Inflammation indicate itⁱ. He was a Man of Learning, but so much addicted to Pleasures, that he hastened his end by them, and died at the Age of 57 at *Medina*, in A. D. 1136, and was buried at the City of *Hamadan*. He (as well as *Serapion*) mentions the Operation of cutting for the *Stone* in the *Kidney*; (but *Albucasus* does not, tho' he lived after them) but seems not to approve of the Operation; so also does *Tulpius* and *Roussel*; and Consul *Hobson* was cut and had a Stone extracted out of his *Kidney* by *Dominico Marchetti* at *Padua*, and enjoyed perfect Health many Years after it^k. We also find that some of the Surgeons at *Paris* performed the same Operation upon a Malefactor there, who recovered and lived several Years after, viz. in the Year 1498^l, which was several Years before Consul *Hobson* was cut.

The next Physician that was eminent, and whose Works are come to our Hands,
is

ⁱ Canon. Med. Lib. 4. Fen. 1, 4. Vol. 2. p. 74.
Philos. Transact. Abridg. Vol. 3. p. 188.

^k See Meze-
^l See Meze-

is *Avenzoar*, who lived at *Seville* in *Spain*, about A. D. 1050. He wrote his *Al-Thaiffer*, containing all necessary Rules for Medicines and Diet to be used in most Diseases. And altho' the several different *Sects* in *Physick* before mentioned, were in his time extinct, yet we see he often reasons as the *dogmatick* or rational *Sect* did; and too often is influenced and led by the *philosophical Theory of Galen*: However, as he lived to the Age of 135, and had seen a great deal of Practice, he made many Observations, and relates some Things which are *new*, or were so then. Dr. *Freind* says^l, he first described an *Abscess* in the *Mediastinum*, which happened to himself, and its Symptoms, which was cured by bleeding copiously; also an Inflammation ending in an *Abscess* in the *Pericardium*; neither of which, he says, are mentioned by any of the *Greek* or *Arabian Physicians* before him; but the Doctor must have overlooked *Galen* who mentions it long before^m; and no doubt but both of these Inflammations, (and several of them which have ended either in a Mortification, or an *Abscess*, as a *Paraphrenitis* generally does, if a Resolution be not made by Bleeding, and antiphlogistic Medicines) must have happened before, but were not so accurately observed and described before;

^l Hist. of Physick, vol. 2. p. 82. ^m Galen. de Admin. Anatom. Lib. 7. Cap. 13. dixit ἐπεσῆν γὰρ ὁ περικάρδιος, &c.

fore, and I believe oftener happen now than they are thought to do, as I have seen several seized with it, which were cured by speedy large Bleeding, and a liberal Use of *antiphlogistic* Medicines internally and externally; and I have been called when an Abscess was formed in the Duplicature of the *Mediastinum*, which was cured by opening the Tumour just above the Diaphragm, when it was maturely suppurated; and the learned *Boerhaave*¹ most accurately described the *Paraphrenitis* and its *pathognomonic Symptoms*, and the proper Method of curing it, in his Lectures upon it. He substitutes *Goats Milk* instead of that of *Asses*, because he says the *Mohamedan* Law forbids the latter: But both *Rhazis*^m, *Haly Abbas*ⁿ, and *Avicenna* (as well as *Galen*, used *Asses Milk* before them) not only advise the Use of both *Asses*, *Goats*, *Cows Milk*, and *Womens Milk* also; and *Haly* adds *Butter-milk*^p; and *Avicenna* *Camels Milk*^q; and they all used *Wine* long before him, tho' the last is expressly forbidden by *Mohamed* in his *Choran*. The learned *Dr. Freind*^r must have overlooked these Places quoted, when he says that *Rhazis* and *Avicenna* used *Asses Milk* chiefly externally, which they did, as well as

¹ In Aphorif. de Cog. & Cur. Morb. Aph. ^m Rhazis ad Al-manzorem de Feb. Hest. Lib. 10. Cap. 3. ⁿ Haly Abbas in Pract. Cap. 26. ^o Canon. Med. Lib. 2. Tract. 2. p. 346, &c. ^p Haly, ibid. ^q Canon. ibid. ^r Hist. of Physick, vol. 2. p. 92.

as Goats, Cows, and Camels Milk; but they all gave them inwardly also. He mentions *Bronchotomy*, but says he would not be the first that should use it, tho' he thinks it practicable, and seems to recommend it in a violent *Quincy*. He also mentions a Stoppage in the Gullet, and is the first that mentions the *Provengue*, and its Use. He also in the Case of an Inability of swallowing any Food, or taking any Nourishment by the Mouth, proposes the Method of supporting the Patient by nutritious Clysters frequently injected; which Practice *Oribasius* had used several Centuries before*, and have been often used since with Success by various Physicians. He also made some small Improvements in Pharmacy, and is the first that mentions *Bezoar* as an Antidote; but when that costly Medicine is enquired into in a rational or experimental Manner, 'tis probable that it's greatest Virtue consists more in it's great Price, than in any real medical Virtue it has in it, and probably will be found to be no better than an *Alkaline* Powder impregnated with a little *Fel Agnini, vel Anguillæ*, or a little *Sapo Amigdal*. How much he may be esteemed an original Author, I shall not dispute with the learned Dr. *Freind*; but it seems most reasonable to suppose, that when the *Saracens* extended their Conquests in the latter

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* Oribas. Collect. 8, 34.

end of the seventh, and in the eighth Centuries, as far as into *Spain*, and settled there, that they carried at least some of the Works of the *Arabian Physicians* with them; and when they began to found Colleges at *Corduba*, *Toledo*, and *Salamanca*, it cannot be doubted but that they took care to procure the Works of most of their own, and the *Greek Physicians* and *Philosophers* also, as they were then almost the only People who did encourage, or had any Taste for Learning.

The next learned *Arabian* of Note, was *Averrhoes*, who also lived at *Corduba*, where he studied *Physick*, *Mathematicks*, and the *Law*, and was afterwards made a *Kadi* or chief Judge of the Kingdom of *Andalusia*; and as he was acquainted with the Sons of *Avenzoer*, he lived not long after him. He was a Man of fine Parts, and much Learning in those Times, and wrote a Treatise which he called the *Colliget*, at the Command of the *Miramamolin* of *Morocco*, which treats on most Diseases, but is chiefly collected from other Authors. He also wrote a Comment on the Works of *Aristotle*, and copied so much the *Theory of Medicine* of *Galen*, and was so great an Admirer and Follower of those two Authors, and their imaginary Hypotheses, that no real Improvements in the medical Art could be expected from him.

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Abul-pharajius mentions a great many other *Arabian Physicians*, whose Works, if they wrote any, are lost; and there are several others whose medical Treatises are still in being; as *Alfabaravius* or *Abulcasem*, *Isaac Israelitus*, *Albengnefit*, *Alkindus*, *Jesu Haly*, *Rabbi Moses*, *Saladin*, and *John Mesue of Damascus*; but as they have nothing new, or material, but what they have taken from the other *Arabian Authors*, except the first and the last, I shall pass over them. *Alfabaravius* compiled a Treatise which he calls *Al-Tasrif*, a Method of Practice, in 32 Books, mostly taken from *Mohamed Rhazis*. He is supposed to have lived about A. D. 1085, but Dr. *Freind* thinks he was later, and that he was the same person with *Abulcasem* or *Albucasis*, because he found at the end of the *Arabick MS.* of *Alfabaravius*, these Words translated out of *Arabick*, and written in Latin thus, “*Explicit hic Tractatus de Chirurgia, estque conclusio totius libri practices Medicinæ, cujus Author est Abul-casem, &c. die primo mensis Safar A. Hej. 807;*” which answers to A. D. 1404. He says the *Art of Surgery* was in his time almost lost; and he might have added that of *Physick*, and all the other *Liberal Arts* also, especially in *Europe*; and they were then begun to decline in *Asia* also: However he endeavoured.

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to revive the first, and prudently says that no Man should pretend to undertake it, without being well versed in Anatomy. He is the first that has described, and given us the Draughts of the Surgical Instruments then used in each Operation^t. He was a very bold and hardy Operator, and used Cauteries frequently, and in many Cases too liberally, where they must give much more Pain, and be much worse than the Disease they were intended to cure. He first describes the Method of cutting Women for the Stone; and he first describes and recommends the same Method of cutting Men, as was practiced afterwards by *Frere Jaques* and *Professor Rau*.

Johannes Mesue of Damascus, is the last of the *Arabian* Physicians in the East, whose Works are come to our Hands: He lived in the latter end of the twelfth Century, and published a Treatise on the Simples used in Medicine; and his *Grabadin*, or Compendium of secret Medicines, and on Diseases: And whoever will take the Labour of examining those Books, will find many Medicines which were not known to the *Greeks*, if we except *Aëturius* the last of them, who probably had the Knowledge of some of those which he mentions, from the *Arabians*. For, notwithstanding that the *Arabians* were such a barbarous and illiterate People

^t Meth. Medend. Chirurg. Aut. Albucase. Basil. 1541.

ple before the eighth Century, yet after that time their Califfs were such great Encouragers of Learning, and the Knowledge of the Sciences, that the *Arabians* soon after became the most learned People of those times; as all Learning in *Europe*, and in most Parts of the *Grecian Empire* also, were so neglected, that it declined as much there, as it was encouraged and improved among the *Arabians*, where it continued to be so till the fifteenth Century, when it began to decline among them, and to revive a little in *Europe* again, tho' very slowly, as we shall see. And during the time that it flourished so among the *Arabians*, they made as great Improvements in several of the Sciences, especially in *Physick* and *Astronomy*, from the eighth to the thirteenth Century, as the *Greeks* ever did in the same Space of time, if we except the time of *Hippocrates*, and after to the Death of *Galen* and *Aretæus Cappadox*. They not only give us the first Account and true Description of the *Small-pox* and *Measles*, their different Kinds, their good and bad Symptoms, and the most rational and successful Methods of treating and curing them, inso-much that no Improvements were made therein, but on the contrary their Method was very much injured, by introducing the hot inflaming Regimen, by their Successors, till the ingenious Dr. *Sydenham* revived their

cooling Regimen again. They also first gave us a true and full Account, and the Description of the *Lepra Arabum*, and distinguish its two different Kinds^a; the *Elephantiasis*^b, or *Lepra Sydeorum*, or the *Taws*^c; and the *Dracunculus*, or *Guinea-worm*, and their Methods of curing them. And the *Arabians* also are the first that describe and recommend the Practice of cutting for the Stone in the Kidneys, and are said to have practised it, tho' few have ventured to follow them therein^d, as well as several other things mentioned before.

The *Arabians* also first used and introduced all the *milder cooling Catharticks* into the Practice of Physick; as, *Sena*, *Rhabarbarum*, *Manna*, *Cassia-fistula*, *Myrobalans*, *Tamar-Indorum*, or *Tamarinds*, and several other cooling *antiphlogistick Medicines*, and the Use of a more cooling Regimen in hot inflammatory Diseases; also the Use of *Camphor*; and are the first that used *Sugar* in Medicine, with which they made various cooling, purging, pectoral, and other *Syrups*; and several Sorts of *Robs*, *Conserve*s, *Condits*, and *Confections* made with it, which rendered Medicines more pectoral, and much more pleasant to the Taste.

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^a Rhazis in Divis. Lib. 1. Cap. 120. p. m. 422. Et in Haly Abbas Theor. Lib. 8. Cap. 15. Practic. Lib. 4. Cap. 3, 4. ^b Rhazis ad Manzor. Lib. 9. Cap. 93, & Division. Cap. 107. p. 418. ^c Haly Abbas Theor. Lib. 8. Cap. 16, ^d See p. 158 before.

They also first introduced the *Chemical Art* into the *Medical*, and first invented the Art of distilling medicated Waters, &c. and prepared *Ol. Amigdal.* and a great many other Sorts of Oils, not now in Use; also various other chemical Medicines, both from Minerals and Vegetables, which shewed others the Way to invent and prepare many more afterwards. Thus they first discovered and introduced many useful and valuable Medicines into the Practice of Physick, which were not known to the *Greeks*. It is allowed that some of their Medicines are too much compounded; but it is most probable that they first learned the Method of compounding their Medicines so much from the *Greeks*, who it is well known had a great Variety of the most compounded Medicines that we have, many Ages before them; as the various *Theriacas* and many other kinds of *Antidotes*, which are more compounded than any of the *Arabian* Medicines are: However it may be wished that neither of them had mixed such a Number of (often contradictory) Ingredients in many of their Compositions, as we find they did; but we are not under any Necessity of following their Example therein. And how much soever the *Arabian Authors* may be contemned, and slighted by some of the Learned, it must be allowed that they made many useful Discoveries and great

Improvements in the *Medical Art*, tho' they did not in *Anatomy*, neither did the *Greeks* from the time of *Galen*; yet the *Arabians* made several in the *Surgical Art*, as well as in the *Medical*, and probably would have made many more, in all its Branches, if they had not been diverted from pursuing the judicious Method of observing and reasoning, as the great *Hippocrates* did; by the plausible Appearance of the philosophical Reasoning, from the imaginary Hypotheses which *Galen* had invented and introduced into his *Theory of Physick*, agreeable to the Principles of the *Aristotelian* Philosophy, which was much in vogue amongst them, which all the *Arabian* as well as the *Greek Physicians* had then received and followed, and none of them more than *Avicenna* in all his *Theory* did.

During the time that Learning and the Sciences were cultivated in the East, they declined and sunk, and Ignorance and Superstition reigned triumphantly over all *Europe* in the West; and the *Popes*, by the Assistance of their *Priests* and *Monks*, ruled and governed *Emperors*, *Kings*, and *Princes*, and their Subjects, with an absolute Sway over their Minds, Liberties, and in general over their Fortunes also, during many Centuries; However, from the Beginning of the sixth or seventh, to the End of the fifteenth Century, when, or some Years sooner,

sooner, Learning began slowly to emerge a little out of that slavish State of Ignorance, in some few Places in *Europe*. It is true the *School of Salerno* in *Italy*, was first established in the seventh Century, and a *College* was founded there by *Charles the Great*, A. D. 802, and was the only *College* then in *Europe*; and Learning was encouraged there by *Robert Duke of Normandy*, Son of *William the Conqueror*, after he was in Possession of that City in 1076; and the Sciences were intended to have been taught there: But Learning under the Direction of such Men as resided there, governed by the Influence of the *Popes*, made but a very slow Progress, during several Ages after, as we may see by those few illiterate low Performances which they published; as the *Schola Salernitana*, written in *Leonine Verses*, or rather in low *Monkish Rhymes*, by *John of Milan*, and inscribed to *Duke Robert of Normandy*; and the Poem of *Ægidius* an *Athenian Benedictine Monk*, and *Archiater* to *Philip Augustus*, in the latter end of the twelfth Century, on the Virtues of Medicines, on the Pulse, and Urine, &c. in Verse; such another low mean Performance; and the several bad Translations of the Works of the *Arabian Physicians*, into the same sort of low *Monkish barbarous Latin*. As it appears that the Physicians who lived and taught the medical Art there, spent most of their Time
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in learning the *Arabian Tongue*, and then in translating either the Works of the *Arabian Physicians*, or the Works of the *Greek Physicians* and *Philosophers*, out of *Arabic*, which the *Arabians* had before translated out of the *Greek*, into their own Language: for notwithstanding that *Italy* is so near to some Parts of *Greece*, and that the Works of most of the *Greek Physicians* and *Philosophers* had been brought to, and were so well known at *Rome* several Centuries before this Time; yet we find, that soon after that Establishment, all the Works of those *learned Grecians* were either lost or entirely destroyed; for, if they had been known in any Part of *Italy*, or in the adjoining Parts of *Europe*, towards the West, they must have been known at *Salernum*, as it was the most eminent School for *Physick* and *Philosophy* at that Time in *Europe*: But we find, that all they had of the Works of the *Greek Physicians* and *Philosophers*, there were only the Translations of them out of the *Arabic*, into their low barbarous *Latin*, from the Translations of them out of the original *Greek*, into the *Arabian Tongue*: neither had they seen, nor did they know any thing of those *Greek Authors* in their original Tongue, till *Mohamed*, Emperor of the *Turks*, came and took *Constantinople* from *Constantine* Emperor of the *Greeks*, *An. Dom.* 1453, when many of the *Greek Christians* fled from that City, and brought

brought with them the Works of the ancient *Greek* Physicians and Philosophers in their original Language to *Salernum*, and some other Places in *Italy*; when, upon seeing these in their original Tongue; they learned that Language, and set upon comparing them, with the Translations of them from the *Arabic*, which they had before; and upon correcting them, and restoring the true Sense and Reading in their Translations of them: For, till this Time, neither the Works of *Hippocrates*, *Galen*, or the other *Greek Physicians*, nor the Works of the *Greek Philosophers*, were known in any Part of *Europe* for several Centuries past, except at *Constantinople*, and such other Places in *Europe*, as were in the Dominions of the *Greek Emperor*; altho' they were very well known at *Rome*, and in most other Places in *Italy*, several Centuries before that time; but when the *Pope's* Power was established, and *Christianity* was changed into *Popery*, both all the Works of these learned Physicians and Philosophers, and the Works of many other learned Men, and almost all Learning also, were either destroyed, or some way lost, and overwhelmed in the Deluge of Superstition and Ignorance, which was introduced by the *Art and Craft of the Popes*, and their *Priests* and *Monks*: And if the Prudence and Authority of the *Greek Emperors* had not preserved those learned *Authors*, and they had not

not so refused to submit to the usurped Authority of the *Popes*, which caused that great Difference and so much Contest with the *Greek Church*, they probably would have been all consumed, or lost in those Times of dark Ignorance, and we should never have seen them. *Tantum potuit Religio suadere malorum*; or rather the Pretence of Religion.

And as the People of those Days of Ignorance, had been taught to believe freely, even the most unintelligible Things, and the greatest Absurdities, in things relating to Religion; *credo quia impossibile est*, afterwards became a Proverb: So we also find, that the Physicians of those Ages (who were most of them *Monks*) seem to have as implicitly believed all that they read in Physic, whether it was consistent with *Nature*, *Reason*, or the Laws of the *animal Oeconomy*, or not. Neither did they aspire so high, as to form *Hypotheses*, or to reason upon the Nature or Causes of Diseases, but simply believed, and followed what they read in the ill-translated Works of the *Arabians*, and other Authors; and as the *Arabians* had too much followed the *Theory* of *Galen*, and the Philosophy of *Aristotle*, so did they; so that it does not appear, that the Physicians of those Times, made any Improvements, either in the *Theory* or *Practice of Physic*; neither could any be expected from them in those

those unlearned ignorant Ages: And even after they received the Works of the ancient learned *Greeks* and *Arabians*, we do not find that they made any great Progress or Improvements, but simply followed what they read, and understood in them, without either reasoning, observing, or enquiring; so that the Progress of Learning still continued to be very slow, till the Beginning of the Sixteenth, and in the seventeenth Centuries.

However, during this Time, some Remains of Learning were still preserved in the *Grecian Empire*, and in *Africa*, and the *East*, as appears from the *Byzantine Historians*, &c. and the two last of the *Greek Physicians*, *Aeturius* and *Myrepsus*. *Aeturius*, the Son of *Zachari*, lived and practised at *Constantinople* in the twelfth Century, and has left us six medical Treatises in tolerable good *Greek*, tho' the Substance of them is chiefly taken from *Galen*, *Aetius*, and *Paulus*, and most probably from some of the *Arabians*; as he is the first *Greek Author* that mentions the milder cooling purging *Medicines*; such as *Manna*, *Sena*, *Cassia*, *Rhabbarbarum*, and *Myrobalans*, which were first used by the *Arabians*, which therefore we must conclude, he had either from the Works of the *Arabians*, as some of them had been then published near 300 Years; or by corresponding with some of their, or some *Greek Physicians* who lived in the *Saracen*

rasen Dominions; as he says that he mentions some things which he had only heard of. And he gives us a more full Account of the Cause of a Palpitation of the Heart than we had before, and of its Method of Cure, especially when it proceeds from a Plethora, by Bleeding and Purging, which is very rational.

And *Myrepsus*, who lived in the thirteenth Century, has left us a *Dispensatory*, written in much more impure, or more modern *Greek*, which contains an Account of most of the compound Medicines which were used by the *Greek* and *Arabian* Physicians at that Time.

Constantine of *Africa*, was born at *Carthage* in the eleventh Century, and travelled into the East, where he lived thirty Years, chiefly at *Babylon* and *Bagdad*, where he studied the medical Art, and made himself Master of the *Arabic*, and the other oriental Languages, and then returned to *Carthage*; from whence he went into *Apulia*, and lived at *Reggio*, and at last became a Monk of *M. Casino*. He is said to have been the first that brought the *Greek* and *Arabian Physic* into *Italy* again. He compiled several Books; and has given us a Translation of *Isaac Israelitus* on Fevers, out of *Arabic* into *Latin*; and another Book, which he calls *Loci Communes*, which contains the Theory and Practice of Physic, which is chiefly copied from
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Haly Abbas. He died in the latter End of the eleventh Century.

During some Centuries before, and after this Time, we find that the *Jews* were the chief *Physicians* in *Europe*, (as they have been some Centuries past among the *Turks*) and were *Physicians* to most of the *Kings* and *Princes* in it: *Tarraguthus* and *Bulbakyliba Bengesta* were *Archiater's* to *Charles the Great*, and wrote the noted *Tacuin* or *Tables* of *Health*. And *Zedekiah* a *Jew*, was *Archiater* to *Charles the Bald*, and we meet with some others who were *Physicians* to the *Popes*; but as they neither wrote, nor have left us any thing that is either useful, new, or worth reading, I shall say nothing more of them. And as to the *Christian Physicians* in these ignorant Times, most of whom were *Monks*, *Priests*, or *Friers*, viz. during the twelfth, thirteenth, fourteenth and fifteenth Centuries: They chiefly spent their Time in commenting upon, or compiling from the Works of the ill-translated *Greek* and *Arabian Physicians*, without either making any *Observations* on *Diseases*, or in *Anatomy*, or in making any *Improvements*, or discovering any thing new, in either the *Theory* or *Practice* of *Physic*; and in Truth, did much more *Hurt* than *Service* to the *medical Art*.

Whilst Learning was thus kept at this very low *Ebb*, by the Power and Influence

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of the *Popes* and their *Priests* and *Monks*, all
over *Europe*; the *Medical Art* was little
encouraged at any of the Courts, and the
Study of it was almost totally neglected in
the Universities, especially at our's in *Eng-*
land, tho' it was a little more encouraged at
Salernum, *Corduba*, and at *Montpelier*; and
the Practice of *Physic* being almost every
where monopolized by the *Monks*, who in
general had very little Learning, and as little
Knowledge of either *Physic*, or any of the
other liberal *Arts* and *Sciences* as possible;
and some of them were so excessive igno-
rant, as to know very little of the *Latin*
Tongue, or were able to read and write their
Mother-Tongue; yet these ignorant Men
took upon them to practise *Physic*, and to
sit as Judges on Diseases, where a right Me-
thod of treating them might save, or a wrong
Method destroy the Life of the Patient:
And they were not satisfied with this, for
they not only stole what they could collect
from such Books as they could read, but
some of them published them as their own^a;
but they also violently and wickedly perse-
cuted some of those few learned Men, which
those Ages of Ignorance produced, and
chiefly because they had more Learning and
Knowledge of the *Sciences* than themselves,
and wrote some Things in the *Mathemati-*
cal,

^a See Dr. Friend, Hist of Phys. V. 2. p. 302. and at p.
254. and p. 260.

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cal, philosophical, mechanical, and chemical Way, which they did not understand; and by the Assistance of those Arts, they performed some Experiments, and produced some extraordinary Effects by them, which the *Monks*, from their great Ignorance, could not comprehend: They therefore accused them of *Magick*, and persecuted them for it in the *Inquisition*, or their other wicked *spiritual Courts*, as they called them ^b.

In these times of Ignorance lived several Men of great Learning for those Times, besides *Arnoldus de Villâ Novâ*, and *P. de Apono*, who were Mathematicians, Philosophers, Chemists, and good *Physicians*; as *Gulielmus de Saliceto*, who lived about the Middle of the thirteenth Century, and is said to have been the first *European Physician* that prescribed any *chemical Medicines*:

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^b Thus *P. de Apono*, who was a great Mathematician, Astrologer, Chemist, and Physiognomist, was accused by the *Monks* at Paris of *Magic*, and dealing in *Talismans*, and was persecuted by the *Inquisition*, but died before they could proceed to condemn him: He was burnt in effigy, others say he was absolved, but others say he was actually burned alive. So also *Arnoldus de Villâ Novâ*, having spoke his Opinions on the *Monks* and their *Mass*, a little too freely, and having said that the *Works of Mercy and Medicine* were more acceptable to God than the *Sacrifice of the Altar*, the *Clergy* at Paris condemned 15 of his Positions, and he was obliged to fly to Frederick, King of Naples. And the famous *Roger Bacon*, notwithstanding his great Abilities and Merit, as well as great Learning, was persecuted by *Pope Nicholas*, and the *Franciscan Fryers*, of which Order he was, for dealing in *Magic*, because he performed such wonderful Things, by the Assistance of mathematical and mechanical Principles, as their Ignorance and Stupidity could not comprehend.

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He recommends two compound distilled Waters for the Eyes. But *Thaddæus*, who was *Professor* of *Physick* at *Bologna*, first mentions *Spirit of Wine*, and a chemical Water, which he says is a good Medicine in a *Dysury*.

But the *chemical Art* is said to have been first invented in the most early Ages by *Vulcan* or *Hermes* in *Ægypt*^c, and was only applied to *Metalurgy*, till it was introduced into the *medical Art* by the *Arabians*^d, and was first brought into *Spain*, and so into the other Parts of *Europe* by them, in the Century before^e; and about this time began to be cultivated and studied by the *European Physicians*, and was considerably improved by them, especially in the fifteenth and sixteenth Centuries, as we shall see: However, some Discoveries were made in it before; and *Arnoldus de Villâ Novâ*, who lived in the Beginning of the fourteenth Century, first mentions an *Aqua Mirabilis*, an *Aqua Vitæ*, *Aqua Euphrasice*, *olium Terebinthinæ*, and some other chemical Preparations: And several other eminent *Chymists* appeared soon after, who were Men of great Note in those Times; as, *P. de Apono*, *Ramund Lully* of *Majorca*, *Roger* of *Parma*, *Albertus Magnus*, *Gordonius*, *Isaacus Hollandus*, and some

^c Vide Boerhaav. Chem. Vol. 1. p. 12.
^e Vide Serapion, Rhazis, Avicenna, et Mesue.
 12th Centuries.

^d Vide Serapion, Rhazis, Avicenna, et Mesue.
 In the 11th and 12th Centuries.

some of our Countrymen; as *George Ripley*, a Monk, *Gilbertus Anglicus*, *Richardus Anglicus*; several of whom were both great *Chymists* and eminent *Physicians* in their time; but the greatest mechanical Genius, and most learned Man of that Age, was *Roger Bacon*, a Monk of *Westminster*, who was an able Mathematician, Philosopher, Astronomer, Chymist, and a great Mechanick; and was the first Person that introduced the Knowledge of those *Sciences* into this Nation (if not that of *Physick* also) unless you will suppose that the *Druids* understood those *Sciences*, because without some Knowledge of some of them, they could not possibly erect such prodigious Monuments as their *Druid Temples* were, as we may see by the Remains of them. *Bacon* was born near *Ilechester*, A. D. 1214; and died A. D. 1292: He left several learned Treatises in MS. behind him, some of which are in the *Bodleian Library* at *Oxford*, and some in the great Library at *Leyden*, and others in the *Harleian Library*, now in the *British Museum*: Among which are, a Treatise on *Opticks*, and on *Perspective*, in which he first describes *Concave Speculums*, and their Use and Power of Burning; and the *Optick Tube*, or *Telescope*, and its Use; and treats on the *Reflection* and *Refraction* of the *Rays of Light*: And a Treatise, 1. *de Chemia*; 2. *Speculum Al-*

chemiæ; 3. *Thesaurum Chemicum*; 4. *De Secretis Artis, atque Naturæ operibus, et de Nullitate Magiæ*. He first took notice of and corrected an Error in the *Calendar*; from which *Pope Gregory* the Thirteenth reformed the *Julian Calender* 300 Years after.

He also first invented, and describes the Materials and the Manner of making *Gunpowder*, and mentions its Noise, Light, and wonderful Effects which it produces: All which, as well as some other Discoveries which he made, as *Dr. Freind* justly observes^f, are wonderful Discoveries for a Man to make in so ignorant an Age, who had no Master to teach him; but it is still more wonderful, that such Discoveries should lie so long concealed, till in the succeeding Centuries, that other People should start up, and lay claim to the Merit of these very Inventions, to which *Bacon* only had a Right.

Those who desire to see more of this great Man's Merit, may consult his Works, published since *Dr. Freind's* Death. And those who would see more of the Rise and Progress of the chemical Art, may consult *Borrichius de Ortu et Progres. Chemiæ*; and *Agricola de re Metalica*, *Geber Rex Arabum*, and *Elementa Chemiæ Boerhaavii*, Vol. I.

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^f *Hist. of Physick*, Vol. I. p. 238.

As we are speaking of our own Countrymen, I shall also mention *John of Gaddefden*, and his *Rosa Anglicana*, a Book which only serves to shew the Ignorance of the Age he lived in, and the Simplicity and Illiterateness of its Author, and his low Sort of Cunningness, which may rather serve to excite Mirth than inform the Judgment, though he was *Archiater* to the King, and Physician to the *Princes*: Neither was *Gilbertus Anglicus* much more learned, tho' he seems to be the better Writer of the two, and to have known something more of the *Greek* and *Arabian Authors*, which he learned in *Italy*; and is the first *English Author* that mentions the Use of the *sulphureous Baths*, and their curing a Man who had a broken Constitution: Whence we must suppose he means those of *Bath*; and that he was cured by drinking those *Waters*, and not by Bathing in them, which Dr. *Freind* says was 300 Years before any that are mentioned either by Dr. *Jones* or Dr. *Guidot*, who revived the Practice of drinking those *Waters* about the latter End of the sixteenth Century: But it is probable that the *Romans* both bathed in and drank those *Waters* above a thousand Years before, as so many of their Antiquities are frequently found there, and as the *Romans* were accustomed to drink the same Sort of sulphureous Waters in *Italy*, we cannot but

conclude, that they also drank those at *Bath*, as well as bathed in them. But how so learned a Physician as *Dr. Freind* was, could take so much Pains as to write so many Pages on those two Physicians, *John* and *Gilbert*, and their Works, and in treating on the *King's Evil*, and its pretended Cure by the Royal Touch; a Popish Relique which no sensible old Woman can believe in, is very extraordinary; but the greatest Men have their Foibles and their Parties.

Not long after *Gilbert* and *John*, lived *Guido de Cauliaco*, who made some small Improvements in *Surgery*; though in general he takes most of what he says either from the sixth Book of *Paulus*, or from *Albucasus*.

But we must not pass over *John* of *Ardern*, who was the first *English Surgeon* that we read of. He lived and practised 21 Years at *Newark* upon *Trent*, then came to *London* in A. D. 1370, whither his great Character had reached long before: He has left us a pretty large Volume of *Physick* and *Surgery*, chiefly on the last; and though that Art was considerably improved by *Celsus*, *Paulus*, and *Albucasus* long before, yet he was the first who brought, or at least revived it in this Nation; and he has several Things which were then new; and has made some Remarks and Observations, which may be useful even now to our Surgeons,

geons, as he was a Man of Learning and much Experience for those ignorant Times.

There were also a few other Men, even in that Age, who had both Taste and Genius, and had by their Diligence and Application acquired a tolerable Share of Learning and medicinal Knowledge, notwithstanding all the Hindrances which the *Priests* and *Monks*, with all their Arts, gave to their acquiring them: But as no great Improvements were, or could be expected to be made under such Discouragements, when the Works of Genius, and the greatest Discoveries that Learning and Arts could produce, instead of being generously rewarded for them, they were charged with dealing in *Magic Arts*, and prosecuted by the *Monks* and *Priests* in the *Inquisition*, in the most barbarous and cruel manner, as may be seen by the Prosecutions of *P. de Apono*, *Arnoldus de Villâ Novâ*, and the eminent *Roger Bacon*, who was the Wonder of the Age he lived in, and the greatest Scholar and Genius for mathematical and mechanical Knowledge, which perhaps ever appeared in the World from the time of *Archimedes* to that time. And we find that the *Priests* and *Monks*, by keeping the *Laity* as much in Ignorance as they could, had ingrossed and monopolised the *Practice of Physick* almost totally to themselves; and as they imposed what Terms and Rewards

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they thought fit, they were great Gainers by it, and were unwilling to part with it; wherefore they pursued it with much Art and Address, in order to keep it to themselves, to the most scandalous Neglect of their Duty almost every other Way, till the People could bear it no longer, ignorant as they kept them; insomuch that the *Popes* and *People*, first at the Council of *Tours*, in A. D. 1139, then *Pope Alexander* the Third, in 1163, and *Pope Honorius* in 1216, were ashamed of them, and published their several Edicts, forbidding the *Priests* and *Monks* to practise *Physick*: But notwithstanding all these Edicts, as the *Monks* found the Sweets of it, they found out Ways, Pretensions, and Means to evade all those Edicts; so that the Practice of *Physick* still continued almost entirely in the Hands of the *Monks*; except here and there a chance Lay-Gentleman, whose Genius inclined him to pursue the Study of *Physick*, notwithstanding all the Obstacles which the *Monks* could contrive, and cast in his Way, to hinder his Progress therein; yet those *Monks* who did practise *Physick*, were generally not only ignorant of the Art, but most of them were a Set of ignorant illiterate Men; but as they took care to keep the Laity as ignorant as themselves, or more so if possible, they knew that they could not judge whether they had any Learning and Knowledge

in Physick, or not, and therefore they imposed what base Arts and Tricks on them they pleased. That this was the State of *Physick* in those Days of Ignorance, is well known; and hence it is, that no Improvements were made in the Medical Art, for several Centuries, in all that long Time of Ignorance.

Thus the State of Physick continued till near the latter End of the Fifteenth Century, when Learning began to increase, and improve in some few Places, especially in *Italy*, after they had received the Works of the *Greek* Philosophers and Physicians, from *Constantinople*, in the Year 1453, as before observed. Not long after this Time, our Country produced two very eminent and learned Physicians, Dr. *Thomas Linacre*, and Dr. *Kaye*, better known by the Name *Caius*. Dr. *Linacre* was born at *Canterbury*, A. D. 1460; he first studied at *Oxford*, and then went into *Italy*, where Learning was then much encouraged by *Lorenzo de Medicis*, the great Duke of *Tuscany*, who shewed him great Favours; and was a great Promoter of all the Sciences, more especially of the *Medical Science*. Here, Dr. *Linacre* made himself a Master of the *Greek* and *Latin* Tongues, and became well acquainted with the Works of *Hippocrates*, *Galen*, and the other *Greek* and *Latin* Physicians, and acquired much Medical Knowledge. After his

his Return to *England*, he published a Grammar of the *Latin Tongue*, that the *English* might learn it more easily, and understand its Purity, which but very few in *England* then did: He also published several other Things; he likewise gave us an elegant Translation of *Galen's Fourteen Books De Methodo Medendi*, into good *Latin*. He was a great Encourager of all Learning, and of the Learned; and was a very learned and able Physician. He was also made Tutor and Physician to *Prince Arthur* and *Prince Henry*, and *Archiater* to the latter when he became *King Henry* the Eighth. And as he saw that the Practice of Physick was mostly engrossed by illiterate *Monks* and *Empiricks*, who, in an infamous manner, imposed upon the Publick: He projected Founding the College of Physicians, in order to prevent that Abuse; and applied to the King, and by the Assistance of Cardinal *Woolsey*, procured Letters Patent for that Purpose from *King Henry* the Eighth, which were confirmed by the Parliament; and accordingly he founded the *College of Physicians*, Anno Dom. 1517, and was elected the President of it, and continued to be so all the seven Years after, till he died in *Anno Dom.* 1524.

Dr. *Caius*, a learned Physician, was his Cotemporary, and published his Treatise *De Ephemera Britannica*, in A. D. 1555.
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four Years after that dreadful Disease made its last Visit to the Inhabitants of this Island. It is probable that he was born at or near *Shrewsbury*, as he lived and practised Physick there. After his being some time at *Oxford*, he travelled into *Italy*, and some other Countries, in the Search of Learning, and was a very learned Physician, as appears from the above-mentioned Treatise, and another which he wrote and sent to the learned *Gesner*, at his Request, *de Canibus Britannicis*, when he was writing his History of *Animals*, &c. both which Treatises are written in an elegant concise Manner, in pure *Roman Latin*. This *pestilential Ephemera*, commonly called the *Sweating Sicknefs*, was a *new Disease*, which never appeared before now, neither has it appeared in any Nation, that we read of since, nor is it described by any Physician, either before or since. *Lord Bacon* mentions it in his History of *Henry the VIIth*, and as it was a *new Disease*, and returned no less than four different Times, during the Life of *Dr. Linacre*, it is something extraordinary that he should neither leave us any Account of that Disease, or its Symptoms, and Method of Cure, nor so much as mention it in any of his Works that he left us, not even in any of the Notes on them.

As this was both a very extraordinary and a *new Disease*, and appeared at this Period
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of Time, it may not be improper to say something of it here, from that elegant and judicious Account which Dr. *Caius* has given us of it.

He calls it *Ephemera Britannica*, as it was a true *Ephemera*, or a Fever of one Day, and finished its Course in twenty four Hours time, if they recovered, and did not die within that Time, as many did; but it was a *pestilential Ephemera*, as he calls it^a, and seized the *English* People only, and not the Strangers who were then here, not even the *Scotch*, who live in the same Island; and some of the *English* that were then in *Flanders*, *Holland*, *Scotland*, and *Ireland*, or in *France*, and not the Natives of those Countries, except that it appeared in *Flanders*, and in some Parts of *Germany*, in the Year 1529, but did not return there again.

It first appeared in King *Henry* the VIIth's Army, when they returned from *France*, and landed at *Milford-Haven* in *Wales*, A.D. 1483, and continued in *London* from *September* the 21st, to the End of *October*, and then ceased^b. It returned again in A.D. 1485, and continued from the Beginning of *August* to the End of *October*, and ceased again^c; and returned again in the Summer of A.D. 1506^d; and again in 1517, and continued from *July* to the Middle of *December*^e, and then ceased; but returned

again

^a *Caii Ephem. Britan.* p. 22.
Ibid.

^b *Idem.* p. 19.

^c *Id.*

^d *Id.* Ibid.

^e *Id.* Ibid.

again in 1528, and continued all the Summer: And lastly, it returned again in the Year 1551^f, and continued above five Months, and then ceased, and returned no more; nor has it been ever heard of in any Country since. It came always in the Summer time, in each of those six Times which it visited and afflicted this Nation, in so terrible a manner, though it was more violent and fatal in some of its Returns than it was in others, but it always ceased, and totally disappeared when the cold Weather came in Winter.

In its fourth Visit, or the third time of returning in 1517, it was so violent, that it usually killed in three Hours time, from its first Seizure; and many of the *Nobility*, and in some Towns one half of the People died of it.

In the Year 1528, it usually proved mortal in six Hours time; many Courtiers died of it, and King *Henry* the VIIIth was in Danger of it. But in its last Return it began at *Shrewsbury*, where Dr. *Caius* then lived^g, about the Middle of *April* 1551, and spread all over *England*, though it did not reach the most northern Parts of it till the End of *September*, and continued five Months, in which time many Thousands died of it; and in one City 960 Persons died of it in a few Days time^h. Dr. *Caius* has described

^f Idem, p. 20. ^g Idem, p. 9. ^h Idem, p. 15. He seems to mean *Shrewsbury*.

described it in so elegant and concise, but in so moving and affecting a manner, that it probably will not be unacceptable to some Readers to transcribe a short Account of it, in a Note, in his own Words *, as he describes the cruel Ravage and dreadful Destruction

* *Sudor Britannicus.*—Istam inclementer populum habebat, ut prope dicam omnes per ea loca (*Salopia*) et vicina illis prosterneret. Quosdam enim in viâ, cum iter facerent, sustulit; quosdam domi ostia et fenestras referendo interemit; quosdam perlusum atque jocos parum joculariter jugulavit; per jejuna quosdam; quosdam per saturitatem abripuit; in somno aliquos, nonnullos vigiles interfecit: Usque adeo, ut ex multis ejusdem familiæ, pauci a febre incolumes persisterint; ex paucis, nulli plerumque intacti evaserint. Ex his alios brevi momento, alios unius, duarum aut trium, alios quatuor, aut eo amplius, horarum spatio, postquam sudare cæperant, de vita sustulit. Sæpissimè qui in prandio hilares erant, sub cænam mortui sunt. Sed nemo qui devicto malo superfuera, ante horas viginti quatuor quam citissimè mali molestiâ et periculo liberatum se gloriari potuit. Itaque ex talibus initis indies ingravescentibus, ubi acerbiora incrementa, longius latiusque se fundente malo, subsequuta sunt, vix credas quis pavor, quantus metus omnes Britannos invasit; præsertim cum ejus conditiones miscrandæ, quæ tum urgebat, contemplatio funestaque mortis imago, nulli spem vitæ (cujus usura omnibus solet esse carissima) non edemerit. Neque enim morbo ulla clementia fuit, nec ullum miseris mortalibus securum refugium. Etenim nusquam non populabatur, nusquam non sæviebat malum. Alios qui se vivos ab hominibus relegarunt, eosdem mortuos in publicum revocavit. Alios conclusos ac penè abditos, contagione enectos in apertum reduxit. Neque sensere id malum scæminæ aut servitia, plebesque humilis aut media solum, sed procures etiam, cum notum sit æquo pede nobiliumque turres humiliumque casas id pulsasse, iniquis tamen modis, ut dicemus postea. In eo hic conquerebatur se siti premi, ille ardoribus consumi, omnes sudore confici. Hunc rursus amentia cæpit, hunc gravis sopor oppressit, hunc inquietudo exagitavit. Hic moribundus ingemuit, ille animam expiravit. Et qui valebat dudum, jam febrescebat, versâque vice, qui ante morbo laborabat, nunc alterius

struction that it made, and the most terrible Effects which it had upon the miserable suffering People. He then proceeds to describe the Causes, the Manner of its Production,

alterius sanitatem procurabat. In summâ, ita nulli ferè hominum pepercit, ita in orbem crudele malum rediit, ut qui alios operâ officioque juvissent priùs, eos vicissim ab illis subsidium officiumque mutuum petere: et contrâ, qui ab illis essent adjuti, eos sine quiete, magnâ fatigatione operam mutuum præbere, inque vices gravi periculo colla sub jugum mittere cogeret. Jam verò de fuga (quæ aliàs in pestiferis morbis solet esse præsidio) cogitare, aut in alium locum commigrare, inane et supervacuum planè fuit. Nusquam enim tutus portus nostris, nulla ex mutato loco securitas erat, quòd nulla malo oberranti omnia requies esset. Alii tamen, relictâ urbe, in agros profugerunt; alii contrâ, ab agris ad urbes convolârunt; alii rursus recessus atque solitudines salutis causâ quærebant; alii domo nunquam prorepebant. Sed cum parum id respondit, quod tanto studio sequebantur; aliis alia diverticula quærere, et alieno loco atque cælo per interposita maria et longè semota loca se conservare tutissimum visum est. Hinc magnâ properatione quidam ad Belgas, quidam ad Gallos transfretarunt; ad Hibernos alii, alii ad Scotos se receperunt. At id quoque cùm minus ex sententia cecidit, compertumque est laboriosius multò quàm ad salutem commodius esse, divinam opem et consilium domi cuique suæ expectare, omnibus certum atque constitutum fuit. Itaque malo victi, atque omni spe vitæ destituti, decubuerunt miseri, eodemque sæpe lecto vivus alter, alter mortuus, miserabili conditione jacuere. Quod in suis non ferentes mulieres (infirmus sexus sed indulgens) nullâ habitâ ædium curâ, neglecto corporis cultu, sine mente discurrebant (ut in tantâ animi perturbatione atque metu solet fieri) crebro suspirio, multo ejulatu, et largo lacrymarum fonte omnia complebant; nil nisi mortes loquebantur, quis perfugio locus, quid faciendum percontantes. Supremum diem jam adesse, —et in suos intuentes, quæque alterius fidem opemque implorabat. Sollicita his cura, ingens labor, summa lassitudo; vix tamèn omnes sufficiebant agrotantium ministerio. Viri morbo intenti, nullam rerum suarum rationem habere, vitæ immemores, de morte cogitare. Etenim cùm magnâ ex parte omnes, tum acerbissime viri malum sensere. Quapropter operas negligebant omnes, commercia intermittebant, funebria negotia curabant. Quoquo te vertisses,

duction, and the Symptoms of the Disease, as he accurately observed them, and the Method of curing it, as also the Manner of its going off by those *copious critical Sweats*,
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tiffes, cadaver conspexisses. Continuus undique nolarum ænearum pulsus, confusus sonus erat.—Nihil enim difficilior, quàm magno dolori paria verba reperire. Ubique lugubris erat lamentatio, fletus mœrens, acerbis luctus. Erat in luctu Senatus, squalabat civitas, dolebat nobilis, mœrebat rusticus, tristis aspectus funerum, dolentium merorem exagitabat. De-
flebat natum parens, parentem filius, uxor maritum, maritus conjugem, affinis affinem, amicus amicum, miserandis planè modis. Neque ulla mali mortisve grassantis (impari tamen sævitiâ) finis erat, ante expletos menses quinque et eo amplius. Cœpit enim morbus ille *Salopiæ* (ubi artem medicam exercuit Author) Aprili mense medio, nec in extremis Angliæ partibus, quæ ad septentrionem spectant, nisi Septembri ultimo, postquam omnem regionem percensuisset, finitus est. Quo temporis spatio quot in Angliâ perire, vix, credo, dici potest. Hoc constat, quod dolens refero, unâ civitate pauculis diebus plùs minùs sexaginta supra nongentos crudeli morbo intercidisse.—Quis enim tantis miseriis non poterit commoveri? Ipse, dum hæc tragædia agebatur, presens spectator interfui, non sine meo gravi sanè dolore.—Quocirca omnia diligenter observare, singula expendere curiosius constitutum mihi fuit, ut ita demum majorum nostrorum more ad novos casus temporum, novorum consiliorum, rationes accommodare, præfidiis salutaribus afflictis rebus succurrerè feliciùs commodiùsque liceret. Ita enim me posse aliquid præstare non dubitabam, cum non leve studiorum momentum deprehenderim *Observationem, cum Ratione indagationem*, tempus et periclitationem.—Atque id dum facerem, primum fuit ex causis atque signis non oscitanter æstimatis, novisse morbum. Deinde rationem inire quamobrem ista evenirent, et ea nostris potissimum: Atque an alios vis morbi consumpsit, alios negligentia, casus intemperantia aut imperitia sustulit. Ad id, cum præceps populareque malum, esset, an non nisi ex contagione oriri potuisset investigare. Ex quibus non magno negotio innotesceret, quemadmodum istis omnibus occurrere medicamento conveniret.

Cum præceps igitur fervor circa cor, sudorque insequens, sed non excedens horas viginti quatuor, cæteræque notæ, quas mox aperiam cum de signis agero, mali indicium fecerant, non erat difficile comprehendere febrem id esse ex contagione pestilentem, unius diei naturalis, &c.

as an *Ephamera* often does in one Day, and other Fevers in a longer Space of Time; all which he describes in a judicious and elegant manner.

This *pestilential Ephamera*, vulgarly called the *Sweating Sicknefs*, was not only a *new* Disease, but had some things very singular and peculiar in its Nature, which are very different from all other *Fevers* that we either read or ever heard of, in several Respects: First, as it was a *pestilential Fever*, but of one Day's Duration, yet was fatal to so many thousand People: Secondly, as it intirely ceased and disappeared the first time during the Space of two Years; the second time twenty one Years, the third and fourth times eleven Years each time, and the fifth time it was twenty three Years before it returned again, and has never been seen or heard of since in any Nation that we read of; it came six times in the Space of sixty eight Years, and each time totally ceased and disappeared upon the Accession of the cold Weather in Winter, or sooner.

But what is most extraordinary in this Disease is, that it had something so peculiar in its infectious Nature, that it only seized and infected the *English*, and not the People of any other Nation, neither the *Dutch*, *Flemish*, *French*, *Irish*, nor even the *Scotch*, who are Inhabitants of the same Island, who were in *England* at those Times when

it seized the *English*; and the *English* were seized by it in all those Countries, though the Natives of them were not: From whence that learned Physician judiciously concluded, that this peculiar Disposition in the Constitutions of the *English* to be infected by it, must either have proceeded from their peculiar Diet, their Use of Malt Liquor, and their Manner of Living, or from the peculiar Disposition of the *English* Air, or from both.

Dr. *Caius* was a learned and able Physician, and seems to have followed the *Hippocratic* Method of observing Diseases and Nature, and *his* Method of Reasoning and Practice also, more than any of his Predecessors did many Centuries before, or during several Years after his time; and he writes like a polite Scholar.

Cotemporary with, and soon after these two eminent Physicians, lived the no less eminent *Andrew Vessalius*, who was born at *Brussels*, A. D. 1514, the greatest *Anatomist* that any Age ever produced. He discovered and corrected various anatomical Errors, which *Galen* had made, by taking his Descriptions of several Parts of the Body, from the Bodies of Apes, and not from the Bodies of Men, as he clearly demonstrated: For doing which, as *Galen* and his Works were then so much in Vogue at that Time, *he* was maltreated and much abused by *Sylvius*,
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and several other Physicians and Surgeons in his Life-time, and after his Death; but *his* Learning and Abilities were every way so much superior to theirs, that they only lost that Credit and Reputation which they had, and *he* gained by it.

And as Learning was now beginning to revive in *Europe*, and *he* was a very learned Man himself, being a Master of the *Greek*, *Arabian*, and *Latin* Tongues, and a great Encourager of Learning in others, these were sufficient Reasons for the *Priests* and *Monks* to look on him with an evil Eye, and envy him for it; and he seeing their great *Ignorance*, in return treated them with that Contempt which they justly deserved for it, and sometimes ridiculed and exposed their great Ignorance, which was an unpardonable Crime with them; therefore they resolved to be revenged upon him for it, and they either invented, or found an Opportunity of executing it soon after. *He*, with some other Physicians, attended a Nobleman in *Spain*, the Cause of whose Disease they could not discover; he therefore desired Leave to open the dead Body, that he might find out the Disease, and its Cause, which was granted to him. And upon opening the Body, the *Monks*, who would be present; either did, or pretended, that they did see the Heart of the Deceased move; wherefore they got the Relations of
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the Deceased persuaded to accuse him of Homicide before the Judges, and they accused him of Impiety before the Inquisition of *Spain*; and the last (not the Judges) undertook to judge him for it: And what greatly aggravated his supposed Crime was, that *he* had a little before publicly dissected the Body of a Whore, from whom a reverend Father or Monk had got his Death; (*N. B.* the *Lues Venerea* was then a new Disease) which he exposed in his Lecture in the Anatomy School, by which the Monks were greatly enraged against him*; insomuch that neither the Authority, nor the Supplications of the *King of Spain*, to whom he was *Archiator*, could save him from their Rage and Tyranny: But at last, by the joint Supplications of the *King* and his *Aulic Council*, they permitted him to expiate the supposed Crime, by going a Pilgrimage to *Jerusalem*. Accordingly he went, and in his Return was cast away on the desert Island of *Zacynthus* in the *Archipelago*,

* Neque miramur tamen Ecclesiasticorum erga hunc Heroa: Vitam agebat quando vera resurgebat linguarum et artium liberalium cultura. Literarum tunc studio deditis volupe erat crassos ubique Monachorum errores exponere, explodere, irridere.—Quin et tulit quam egerrime fastum in Ecclesiasticis Censoribus, horam detestans altum supercilium et pinguiissimam ignorantiam.—Castissimos dein Sanctosque horum hominum mores prodit, quando narrat hilaris, Studiosos suos pulcherrimæ meretriculæ, in quam deperierat Pater Reverendus, cadaver raptum Sepulchro, in Theatrum attulisse, ad usus Anatomicos, in rabiem fere acto Monacho, &c. Vide Vesalii Opera, in præfatione Boerhaavii et Albini.

pelago, where he miserably perished from the Want of all Necessaries of Life. Thus died this eminent and learned Physician, and great Anatomist, after having made so many great and useful Discoveries in Anatomy, a Victim to the implacable Rage of the uncharitable, illiterate, and ignorant Monks, and the Craft and Cruelty of that unmerciful Church.

Cotemporary with *Vesalius*, was the eminent Anatomist *Eustachius*, who was a Professor of Physic at *Padua* in *Italy*; he being a little more respectful to the Church, and more cautious not to offend the ignorant Monks, obtained a Licence from the Inquisition, to publish his *Opuscula Anatomica*, but not for his other anatomical Works, and elegant Tables; so that the Learned were deprived of the great Benefit of the latter, as he died soon after; till the learned Professor *Boerhaave* observing, that *Eustachius* referred in his *Opuscula*, to his anatomical Tables, he therefore wrote to Dr. *Lancicius*, the Pope's Physician, to solicit the Pope to give an Order to search the Registers in *Italy*, in order to find where *Eustachius* died; and then to enquire for those anatomical Tables; and accordingly they found his House, and the Copper-plates finely engraved, laid in the Bottom of an old Chest, where they had lain above 150 Years, without being injured by time, from which we

now have those curious and valuable anatomical Tables printed at *Rome*; and reprinted since, and greatly improved by *Professor Albinus* at *Leyden*.

Thus those Tables were brought to light after so many Years, although *Dr. Lancicius* does not mention *Dr. Boerhaave's* Name, as he was the Means of their being discovered; probably because he dedicated them to the Pope, therefore was not willing to mention the Name of a Person whom he esteemed a Heretick, as being the Cause of their being discovered, though he was so *eminent a Physician*.

Having thus given a short Account of the State of Learning and medical Knowledge, both in the East and in most Parts of *Europe*, from their first Rise down to the latter End of the fifteenth Century. And that excellent and ingenious *Art of Printing* having been invented a little before[†], and now began to be known and practised in most Parts of *Europe*: But we may observe, that this *Art of Printing* was not introduced into the World without great Opposition from the *Priests* and *Monks*, who accused one of its Inventors of *Sorcery* and *Magick*, and his being assisted by the Devil to print the *Bible*, which was making a foolish silly Devil of him indeed, as it was not to his Advantage any way; therefore it is much more

[†] Viz. about the Year 1466.

more probable that he assisted them to invent such a silly Lye.

After this, Books were published, and much more easily obtained than they were before by transcribing them, and many began to learn to read, and then to think for themselves; and discovered that their Reason was beneficently given to them, to direct and govern all their Actions by, and that they had a natural Right to use, and be guided and governed by the Dictates of it: and if in the common Affairs and Concerns of Life, certainly in those of the greatest Importance, their Religion, and the Preservation of their Health, Lives, and their Well-being, notwithstanding all the Injunctions, Commands, and Pretensions of the *Pope*, and his *Priests* and *Monks* to the contrary.

And the People having thus got the Eyes of their Understandings opened, the wiser and more thinking Part of Mankind began to think, and soon saw the grievous Oppressions and the great State of Ignorance which they and their Ancestors had been oppressed with, and laboured under so many Centuries past, chiefly by the Arts and Contrivances of the *Popes* and their *Monks*: This soon brought on the *Reformation* in several Parts of *Europe*, in the Beginning of the sixteenth Century. And as *Men* began to read and think for themselves, they also

began slowly to emerge out of that State of dark Ignorance, in which they had been so long kept by Craft, and not only cast off those tyrannical Shackles which had kept them so, in respect to Religion, but in respect to all other Branches of Learning; and they began to enquire after Knowledge, and to cultivate the Sciences.

And as Learning was then much encouraged by several of the Protestant Kings and Princes in *Europe*, it soon began to revive, and Knowledge increased so much during the sixteenth and seventeenth Centuries, that they produced more *learned* and truly *great Men* in every *Science*, than any other Age that we read of ever did; so that those two Centuries may be properly called the *Two Ages of great Men*; some of which, especially those who contributed much to the Improvement of the medical Science, I shall mention in the Note below *.

S E C T.

* Dr. Linacre was born at Canterbury, A. D. 1460, and died at London, A. D. 1524, aged 64. Dr. Caius lived and practised Physic at Shrewsbury, A. D. 1551, and published his *Ephem. Brit.* Dr. And. Vesalius was born at Brussels, A. D. 1514, died in the Island of Zacynthus, A. D. 1564, aged 50. The great Lord Verulam was born at London, A. D. 1560, died at Highgate, A. D. 1626, aged 66. Dr. William Harvey was born in Kent, A. D. 1557, died at London, A. D. 1637, aged 80. Dr. Sanctorius was born at Istria in Italy, A. D. 1561, died at Venice, A. D. 1636, aged 75. Dr. Eustachius was born in Italy, and was cotemporary with Vesalius in the 16th Century. Jacobus Berengarius was born at Carpo in Italy, in the latter End of the 15th or Beginning of the 16th Century. Dr. Gabr. Fallopius was born and lived in Italy about

S E C T. III.

On the IMPROVEMENT of MEDICAL KNOWLEDGE, after the RESTORATION of LEARNING.

HAVING brought our Inquiry into the Improvements that were made in the medical Art, from its first Rise down to this Time, which was so remarkable for the Improvements made in all the *Sciences*, and for its producing so many eminent and learned great Men; let us inquire into those great Discoveries and Improvements which were made after this to the present time.

And as I have given some Account of Dr. *Linacre*, Dr. *Caius*, Dr. *Vesalius*, and *Eustachius*, though I shall have an Occasion to say something more of the two last, when we are speaking of the Improvements which

about the Middle of the 16th Century. Dr. *Lower*, Dr. *Gliffon*, Dr. *Ridley*, Dr. *Wharton*, Dr. *Havers*, Dr. *Willis*, and Dr. *Wainwright*, were born in England. Dr. *Nuck*, Dr. *De Graffe*, Dr. *Swammerdam*, Dr. *Drillingcourt*, and Dr. *Ruyfch*, were born in Holland. Dr. *Bruner*, Dr. *Peyerus*, *Hovius*, *Schellamere*, *Palphin*, *Valsalva*, *Steno*, and *Hermanus* in Germany. Dr. *Malpigi*, *Leal Lealis*, *Gagliardus*, *Borellus*, *Belini*, *Michæliotti*, and *Morgagni* in Italy. Dr. *Pequet*, *Vieufens*, *Du Verney*, *Helvetius*, and some others, in France, in these two Centuries. Dr. *Sydenham* was born in Dorsetshire, A. D. 1634, died at London, A. D. 1689, aged 55. Sir *Isaac Newton* was born Dr. *Boerhaave* was born at Voorhout near Leyden, A. D. 1668, died at his Seat near Leyden, A. D. 1738, aged near 70. Dr. *Fred. Ruyfch*

which have been made in Anatomy; and shall begin with the truly great *Francis Bacon Lord Verulam*, one of the greatest Genius's that any Age ever produced; and although he was not a Physician, but a Lawyer and a Philosopher, yet *he* first discovered and taught Mankind the right Way of Thinking, and the true Method of discovering Truth, and obtaining true Knowledge and Certainty, both in Philosophy and in Physick, and all other Sciences. He was born in *London*, A. D. 1560, and educated at the University of *Cambridge*, where the *Aristotelian Philosophy* was so much esteemed and in such vogue, that his *Ipse dixit* was both there, and in some other Universities, taken for as full a Proof of the Truth of any thing in dispute, as a Demonstration was: But he first discovered the Errors and Falseness of the Principles of that *Philosophy*, and its subtle imaginary Hypotheses, which had been followed by all the Learned the Space of above a Thousand Years, and wisely rejected both it, and all the fine subtle Hypotheses, which many learned and ingenious Men had builded upon its erroneous Principles; and first discovered and taught both Philosophers and Physicians, that the most certain way to arrive at the Knowledge of *Truth*, both in *Philosophy* and *Physick*, is by making accurate Observations and judicious Experiments, carried on

on by just inductive Reasoning, and confirmed by other Experiments.

And *his Lordship* having thus wisely cast off the Shackles of the *Aristotelian Philosophy*, and shewed Mankind the right Method of Reasoning, and arriving at Truth, and the Knowledge of *Nature*; and Men having their Eyes thus opened by the *Reformation in Religion*, and by *his Lordship* in *Philosophy*, the wiser and more attentive Part of Mankind began to think and make Observations and Experiments, and soon learned to reason right, and then to examine and judge for themselves, which soon led them to make great Discoveries.

And accordingly we find that all the great Discoveries and Improvements, which were then made, or that have been made since, by the learned and ingenious Dr. *Harvey*, *Sanctorius*, *Sydenham*, *Lower*, *Boyle*, the great *Sir Isaac Newton*, *Boerhaave*, *Locke*, *Leibnitz*, *s' Gravesand*, and all other great Men, have all been made by those very Steps and Means which *his Lordship* first discovered, and clearly pointed out to them: And we may venture to say, that all future Discoveries and Improvements, both in those and all other *Sciences*, must be made by the same Methods and Means.

And as *Galen* had founded *his Theory of Physick* upon the Principles of the *Aristotelian Philosophy*; which *his Lordship* had
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proved to be erroneous and false, the more able and judicious Physicians, who lived after that time, began to discover the Errors of the *Galenical Theory*, and the Fallacy of his imaginary Hypotheses also; which soon put them upon making Observations and Experiments, and to use the Method of inductive Reasoning, which soon induced them to reject both the Philosophy of *Aristotle* and the hypothetical *Theory of Galen*; and also put them upon searching for and endeavouring to discover some other *true Principles of Philosophy*, and a more rational and *true Theory of Physick*, by making Observations and Experiments, assisted by just inductive Reasoning, as *Lord Verulam* had advised: And accordingly we find that the great Sir *Isaac Newton* discovered the one, and the great Dr. *Boerhaave* the other, some Years after.

But *his Lordship's* Merit and Abilities were too great, and *his* Knowledge too extensive, to be seen and comprehended by the weak Understandings of his Cotemporaries (which was also the Case of his Namesake the great *Roger Bacon*, and some other Men of great Abilities and Merit) neither were they known, except to very few, till they were discovered by the above-mentioned great Men, and some others, some Years after *his Lordship's* Death. Such is the Frailty of human Nature, and such
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the Weakness and Wickedness of the human Heart, that this great Philosopher, who truly merited the highest Honours due to Man, and the greatest Rewards for his Labours, yet instead of those *he* fell a Victim to the Vanity and Ignorance of a weak Prince, and the vile Ignorance of a flattering Party.

But *his Lordship's* great Merit and Fame, has, like the fabulous Phœnix, risen out of *his Ashes*, and is, and ever will be, admired and esteemed through all future Ages; unless Mankind sink again into the same State of Ignorance, which they were in some Years before *his Lordship's* time.

Cotemporary with *his Lordship* lived the eminent and ingenious Dr. *William Harvey*, who by making many accurate Observations and curious Experiments upon various Animals, assisted by inductive Reasoning, discovered the *Circulation* of the Blood: A Discovery, which together with that mentioned in the next Paragraph, gave such a great and new Light into the medical Art, and laid such a sure Foundation to build a *new and true Theory of Physick* upon, that it gained both *him* and *his Country* no less Honour and Fame, than the Discovery has been greatly useful to all Physicians, and beneficial to all Mankind. He also made several other great Discoveries on the Generation of Animals, which he published in
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his two learned Treatises *de Circulatione Sanguinis, et de Generatione Animalium*, both which contain so many useful Remarks and curious Observations, that they are too numerous to be mentioned here, and may be the best known by reading them attentively over, and they well merit our best Attention.

At the same time lived the eminent *Sanctorius*, who was Professor of Physick at *Padua* in *Italy*; who likewise, by making accurate Observations and statical Experiments, which he continued near thirty Years, first discovered the Quantity or Weight of the subtile fluid Matter, which is continually exhaled and carried out of our Bodies by *insensible Perspiration* and *Sweat*. A Discovery, which gave as much Light to the Knowledge of the animal Oeconomy, and into the Causes and Manner of Production of several Diseases, and into the Methods of curing them, as that of the Circulation of the Blood did. But I must observe, that as subtile and imperceptible as this Evacuation is, yet we find that it did not escape the Observation of the penetrating Eye of the great *Hippocrates*; since we find that *he* had, by carefully observing *Nature*, and what Effects she produced in the human Body, discovered two thousand Years before *Sanctorius's* time, that every Part of the Body had both its *absorbing*
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and *exhaling Vessels* or Pores, by which it both absorbs into and exhales a fine subtile Fluid out of it: And *he* more than once says ^a, εἰσπνέον καὶ ἐκπνέον ὅλον το Σῶμα: *Every Part of the Body absorbs and exhales something.* And Galen also, in his Comment on those Passages, says ^b, *This excrementitious Vapour is expelled through small Orifices, which the Greeks call πόροι, Pores, dispersed all over the Body, especially all over the Skin, partly by Sweat and partly by αἰθήρ διαπνῶν, insensible Perspiration, which escapes the Sight, and is known to few Persons.*

But these Passages, both of *Hippocrates* and *Galen*, seem to have escaped the Observation of most, if not all Authors, till the time of *Sanctorius*: For, notwithstanding that *Hippocrates* and *Galen* from him, did know that such a subtile Matter was continually exhaled out of the Body, in such a manner, yet neither of them knew its Quantity, or supposed it to be so much as it really is; neither was it then, or before *Sanctorius's* time, known to be of that Importance to the Preservation of Health, and the Continuation of Life, as *he* found it to be, by carefully weighing himself, and all that he eat and drank, and what he evacuated

^a Hippoc. Epidem. L. 6. Sec. 6. Aph. 1. p. 1190. Ed. Fæt. Lib. de Aliment. &c. ^b Galen in Comment. ejusd. Et in Lib. de Sanit. Tuend. L. 1. C. 12.

ated other ways; by which he discovered, that the Quantity of Matter, which is carried out of the Body by insensible Perspiration and Sweat, in every 24 Hours time, amounted from four to six Pounds in the Summer time, and from one to four Pounds in the Winter Season in the warm Climate of *Italy*, which is equally, or near, as warm as *Greece* is: He also found that its Quantity was considerably increased by Heat, Exercise, Sleeping, and by some Kinds of Diet, and was much diminished by Cold, Watching, Sitting still, being wet, and other Sorts of Diet, and by the different Degrees of the Use of the six Non-naturals; which Variations in its Quantity, do greatly contribute to the Production of several Diseases, as well as to the Restoration and Preservation of Health.

The same Experiments have been made since by Dr. *Keil* at *Northampton*, Dr. *Dodart* in *France*, and with great Exactness by Dr. *De Gorter* in *Holland*, and Dr. *G. Rogers* near *Cork* in *Ireland*, by whom several Improvements have been made therein, especially by the two last Physicians, as to the Variations of its Quantity by different Kinds of Food and Exercise, as they were very exact, both in their Experiments, their Exercise, their Diet, and in the Use of all the Non-naturals, which we are told Dr. *Keil* was not so regular in, as such Experiments

riments require to be made with. And as the Latitudes of *Holland, England, and Ireland*, especially *London and Cork*, are near the same, and the Climate near the same also, and are all considerably colder than it is in *Italy*, their Experiments are better adapted to our Constitutions, Air, and Manner of Living in *England*, than those made by *Sanctorius* and *Dodart* in *Italy* and *France*. From Dr. *Rogers's* Experiments we find, that the Quantity of Matter carried out of the Body by Perspiration and Sweat, (which some more modern Observations and Experiments make it appear, that these two Evacuations are made by or thro' different excretory Ducts or Vessels;) and that the Quantity of both taken together, is from 33 Ounces to 93, in every 24 Hours time in Summer; the Medium of which is 63 Ounces, which is equal to four Pounds, less one Ounce; and from 42 Ounces to 60 Ounces in Winter, the Medium of which is 51 Ounces, equal to three Pounds and three Ounces: So that we may take four Pounds for the usual Quantity carried off in Summer, and three Pounds for the usual Quantity in Winter, in every 24 Hours; but these Quantities are continually varying, by the above-mentioned Causes.

Those who desire to be more minutely exact, may compare all those Authors together; or what may be still better, may

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make the same statical Experiments upon several different Constitutions at the same time here in *London*.

These two great Discoveries being made, by the means of making Observations and Experiments, soon put several other learned Physicians and ingenious Anatomists, upon making further Researches and Inquiries into the Structure of the human Body, in order that they might more certainly know the Use, Office, and Actions of all the different Parts of it, and how and where all the several Secretions, Excretions, and all the other Functions of Life, are performed. And the learned *Vesalius*, having published his curious *Anatomical and Surgical Works*, about 60 Years before Dr. *Harvey* published his *de Circulatione Sanguinis*, in which he had not only corrected the Mistakes and Errors of *Galen*, but had discovered the Structure of most Parts of the human Body, and the Use of many of them, as well as made several other great anatomical Discoveries; and having first delineated all the Parts of the human Body, in his elegant and curious anatomical Tables, which are so accurately drawn and described, especially those of the Muscles, and some other of the smallest Parts of the Body, that they have not been excelled by any Anatomists since.

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And the eminent *Eustacbius* having published his *Opuscula Anatomica* near the same time, or a few Years after him, and before Dr. *Harvey's* and *Sanctorius's* great Discoveries were made; and had also delineated and ingraven his curious and most elegant *anatomical Tables* at the same time, altho' they were not published till many Years after, as before observed; in which he has traced out and accurately delineated the smallest Vessels, and most minute Parts, that could possibly be discovered, without the Assistance of Injections; neither have any equalled these two great Anatomists, till *Professors Ruysb, Morgagni, and Albinus*, have since, by the Assistance of some curious Injections, discovered the Structure of the minutest Parts, and almost the smallest and most subtile Vessels, where the different Functions of Life are performed.

Eustacbius also discovered the Use and Office of the *Kidneys*, and the *Tube* which passes from the Mouth to the internal Part of the Ear, and is called by his Name; also the *Vena sine Pari* vel *AZTPOΣ dicta*. He also discovered the *Lacteals*, the *Receptaculum Chyli*, and the *Thoracic duct*, in the Year 1564, although he did not discover their Use and Office; but these were discovered several Years after by the ingenious *Pequet*. And we also find that *Fallopianus* had discovered those two *Tubes*, which pass

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from the *Ovaria* to the *Uterus*, and are
called by his Name, before the Discovery
of the Circulation of the Blood was made.

These great *anatomical Discoveries*, and
that of the *Circulation of the Blood*, and the
insensible Perspiration, being made soon after,
excited several other eminent Physicians
and able Anatomists to pursue those Studies,
and those anatomical Researches, whereby
several other considerable and useful Discoveries
were made, and the Knowledge of
the Structure of the Body, and the Use and
Office of its several Parts, where the different
Secretions, Excretions, and the other
Functions of Life are performed, was
greatly improved by several learned Authors,
as we shall see hereafter; which have enabled
Physicians to investigate the Seat, the
Causes, and the Manner of the Production
of various Diseases, as well as the Methods
of curing them, with more Certainty and
Success.

But the *Chemical Art*, which some of its
greatest Admirers say, was first invented by
Tubal-cain, the *Vulcan* of the Heathens,
before the Flood; others say in *Ægypt* by
Thoth the *Ægyptian Æsculapius*^a, but was
then only applied to *Metallurgy*; but was
much improved by the *Arabians*, and was
first introduced into the *medical Art* by the
Arabian Physicians, who invented several
useful

^a Boerhaav. Chem. Vol. 1. p. 79.

useful *chemical Medicines*, which they afterwards brought with them into *Spain*; and from thence, and from *Ægypt*, that *Art* was carried into most of the *European Nations*: At which time it was considerably improved by *Geber*, called *Rex Arabum*; and after him by some of the *Greeks*, as *Zozimus Panopolitanus*, and several others^b who lived after them; though these *alchemical Authors* chiefly employed that *Art* in the Operations of *Metallurgy*: But soon after the Knowledge of this *Art* was spread into several of the *European Nations*, it was first, by a Mistake of the *Arabian Manner of Speaking*^c, chiefly applied in the medical Way, to the Invention of several Medicines for the Cure of Diseases, and was much cultivated both by Physicians and others, in various Nations, especially in *Germany*.

And some of the Physicians of those Times, seeing that *Rhazis*, *Avicenna*, and the other *Arabian Physicians*, had made use of several *Chemical Preparations*, in their Method of curing Diseases; they endeavoured to discover some other Chemical Preparations, and such Methods of applying them, as that they might become useful in that Way, and thereby improve medical Knowledge: And accordingly we find, that our great *Roger Bacon*, *George Ripley*, *Albertus Mag-*

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nus,

^b Idem, p. 12.

^c Idem, p. 15.

nus, Arnoldus de Villâ Novâ, Raymundus Lully, Hermesius, Isaacus Hollandus, Bazil Valentine, and several other eminent Chymists, by which the chemical Art soon became much in Fashion: This induced several others to enter upon those Studies, tho' several of them, not over well qualified for them, though some others were Men of Learning, and every way well qualified for it; as Otto Tachenius, Crollius, Paracelsus, Van Helmont, Sylvius, Hartmannus, Hermanus, Le Febre, Glauber, Le Mort, Sendigovius; and several Years after them Boyle, Cox, Homberg, Slare, Le Mery, Geoffroy, G. Ern. Stabal, Hoffman, and Boerhaave. Several of these ingenious and learned Men applied themselves, in the different Ages in which they lived, to improving the chemical Art, and the three last eminent Men brought it to a State of great Perfection in their time.

The first of these eminent Chymists made several great Improvements in that Art, and discovered several useful Medicines; and some of them invented and discovered some of the most efficacious Medicines that we now have, and which were then found to be much more valuable and more efficacious Medicines in the Cure of some new Diseases, which then made their first Appearance in *Europe*, as we shall here afterwards see, as well as in the Cure of
some

some other obstinate Diseases, than any of their *galenical Medicines* which they had before were. These Discoveries, and the extraordinary Cures which some of them performed with their new invented *chemical Medicines*, especially in some of those new Diseases, made such great Improvements both in the *Materia Medica*, and in the medical Art also, that it then turned the Thoughts and Intentions of several ingenious and learned Physicians, and especially those who so strictly adhered to and followed the *Theory of Galen*, as the most then did, from pursuing those anatomical Inquiries, by which further Improvements in the Knowledge of the animal Oeconomy, and the Causes, and the Manner of the Production, as also the Methods of curing Diseases, might have been made, at least for some time; and turned them to the Pursuit of the chemical Art, in hopes of making still greater Discoveries by it. However, the medical Art was much more improved by these Means of the *Chemists*, than it had been by the *Arabians*, though they first introduced it into that Art.

But although some of these first Chemists were Men of Sense and Learning; yet after that Art began to be fashionable and much in vogue, there were some others of them who were Men of an uncommon Turn of Genius, and were as great Enthusiasts, both

in the Chemical and Medical Arts, as any other Men ever were in Religion: And they not only pretended to transmute some of the baser Metals into Gold, contrary to the Nature of Things, and the Laws of Nature; and if they could have succeeded in that impossible Work, it would only have rendered Gold as plentiful, cheap, and less valuable than Iron, because it is less fit for Instruments and mechanical Uses: But they would also pretend to infallibly cure all Diseases, by some of their *new invented chemical Medicines*; a thing equally as impossible as the other, and shewed their Ignorance of the Causes and Nature of Diseases. And as those who are the most ignorant, are generally the greatest Boasters, so we find that none of them were more so than the vain boasting paradoxical Enthusiast *Paracelsus*, who had acquired so much Riches by curing the *Venereal Disease* with a *mercurial Unction*, the Knowledge of which Secret he is said to have stolen from *Jacobus Berengarius of Carpo*, in his Travels thither; and was so illiterate, that he said Philosophy could be taught in no Language but *High Dutch*; but the true reason was, that he neither understood Philosophy, nor any other Language: He also boasted that he had a *Nostrum*, which would prolong Man's Life to the Age of *Methusalem*, but died himself at the Age of Forty-seven.

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He was succeeded by his Scholar *Van Helmont*, who had much more Learning, but was as great an Enthusiast, both in the chemical and medical Arts, as his Master, and embraced most of his paradoxical Opinions; and having more technical Terms, he frequently used them rather to dazzle and confound the Understandings of his Readers, than to inform their Judgments: And by thus giving his Writings a mystical Air of Wisdom, he rendered them obscure, and sometimes unintelligible, and they were thereby more easily imposed upon the Publick and Vulgar, as sublime and useful Truths. He also vainly boasted that he could cure any *Fever*, in four Days time, by Sweating the Patient with one Draught of his famous *Nostrum*, the *Præcipitatus Diaphoreticus Paracelsi*^f; and further adds, “*That no Man deserves the Name of a Physician, who cannot cure any Fever in four Days time.*” However he allows, that he sometimes added a little *Theriaca* and *Wine* to it; which last, he says, “*Is not only a great Cordial, but as a Vehicle, is a proper Messenger to be sent on such an Errand, as it knows the Road, is well received wherever it comes, and readily admitted into the most private Apartments of the human Body.*” Hence we learn, that *Wine* is not only a well-beloved, but

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^f Helmont. Opera, Cap. 12. 6.

^g Idem. C. 12. S. 7.

a good-natured intelligent Being; though it sometimes deprives Men of their Senses for a time, when they take too much of it: And hence we also see a Specimen of this Author's Method of Reasoning and Writing. He also boasted like his Master, that he could cure all inflammatory and other Fevers, and even a Pleurisy, without either Bleeding, Vomiting, Purging, Clysters, or Blisters: And he quarrelled so much with the two last, that he calls *Clysters* a beastly Remedy; and says, that *Blisters* were invented by a wicked Spirit, whom he calls *Molox*^h; but *Beelzebub* might have been as good a Name, since Dr. *Baynard* wittily says, that he believes he was only a great *Cantharid*ⁱ. And both *Helmont* and the *Doctor* were so far right, that Blistering was then, as well as now, much abused, and they are much oftener applied than they are truly indicated or useful.

Thus these two eminent Chemists, and too many of their Followers, often imposed themselves upon the Vulgar, and their Writings upon the unguarded Reader, for Men of profound Knowledge in the medical Art, and as great *Adepts* in Chemistry. And being puffed up with the great Opinion of their new Art, or new Medicines, and their own great Wisdom, they not only rejected the

^h Idem, Cap. 7. §. 3.
p. 199.

ⁱ Baynard on Cold Bathing,

the subtile philosophical Theory of Medicine of *Galen* and *Avicenna*, which was then so much in vogue: In doing which they were right, and might have done great Service to Mankind, if they had not set up their own imaginary *chemical Theory* in its Place, which was neither founded upon Observation, Nature, or Reason, nor had any Existence, but in their own imaginary Hypotheses: Thus they supposed a *Malignity* which caused all Diseases, both inflammatory and other Fevers, which was to be forced and driven out of the Body by Sweating; with their hot chemical Medicines; therefore they attacked all *Fevers* with their chemical Ammunition, and attempted to carry them by *Fire* and *Storm*, with their *Præcipitatus Diaphoreticus*, and sweating *hot Regimen*, which must have been fatal to many; and no doubt would have been so to many more, if *Van Helmont* had not allowed his Patients to dilute with a thin Diet, as he did, which might render that fiery hot Method less fatal: But as the learned Dr. *Freind* judiciously says, that if any did escape through that *hot Regimen*, it was through a *fiery Tryal*.

Thus the Chemists, without any rational *Theory*, or any Regard to *Nature*, and what she indicated or did; or duly considering how the *morbid Matter*, which caused the Disease, was to be concocted, and fitted to

be carried off, by some critical Evacuation, or how to assist *Nature* to bring that *Crisis* on, according to the *Hippocratick Method*; or duly considering the Benefit of the rational cooling antiphlogistick Practice of the *Arabians*, they introduced their sweating fiery *hot Regimen* into the Practice instead of them; and this hot Regimen was soon after brought into Practice here in *England*, and most other Countries; and continued to be much in vogue here many Years after, as may be seen by the Authors * of those Times; till the judicious and honest Dr. *Sydenham* wisely rejected and exploded it, and introduced the rational *Hippocratick Method of Practice*, and the cooling Regimen of the *Arabians*, which he seems rather to have taken, *ex ipsa re et ratione*, from Nature and Reason, than from the Works of the *Arabian Physicians*, with which he seems not to have been acquainted, as he never mentions them.

Van Helmont had also several other famous *Nostrums*, with which he pretended to perform Wonders, as Quacks have done in all Ages, and as some do now; for Quacking never was more in Fashion than it is now; and the chemical Art has supplied them with many more *Arcana* and *Nostrums*, than the Ancients ever had in all their *Antidotes* and *Theriaca's*, &c. ever since the

* See Dr. Morton's Works, and several others.

the chemical Art was introduced into the Medical. We have now a *WARD's Pill, Drop, &c.* and the *Kermes Mineral*, called by some *Arcanum Carthusianorum*, or *Monachorum*, a *JAMES's Powder*, and a Multitude of others, all sold as *Quack Medicines*, which are Preparations from *Antimony*. And it is well known to Physicians, that most of the *antimonial Medicines* are very uncertain in their Operations (especially the *Pill, Drop, and Fever Powder*) sometimes not operating, and at other times, the same Dose given to the same Person in the same Case, works so violently, as to produce very dangerous and often fatal Effects.

It is true, these *antimonial Medicines*, especially the *Fever Powder*, as it is called in the *Quack-bills* and *Advertisements*, has been given to many, and sometimes has chanced to have been given at, or a little before the coming of the *Crisis* of a *Fever*, when the Stimulus of the Antimony has increased the Momentum of the Fluids, and so assisted *Nature* to bring on the *Crisis*, and carry off the Fever, and the Patient has recovered, though he laid in a stupified senseless State a little before; which is no uncommon thing a little before the *Crisis* comes on, as is well known to Physicians: And we often see the same good Effects produced, by giving a few Drops of the *Vinum Antimoniale*, in a gentle cordial Draught,

Draught, that is not too much heating; and sometimes from a common cordial Draught, or a Glafs of rich Wine, given at that *critical time*, which has assisted *Nature* to bring on the *Crisis*, and produced the same salutiferous Effects: But neither that *Pill*, *Drop*, or *Powder*, nor that *Wine*, given at another time of the *Fever*, when no Symptoms of an approaching *Crisis* indicated the giving them, can produce those good Effects; but on the contrary they increase the *Fever*, and all its bad Symptoms, and sometimes produce fatal Effects, as I have several times seen, when called in after the *Powder* has been so given (for I never did advise the giving it, having too often seen it thus injuriously given). And as it is well known to Physicians, that the *Vinum Antimoniale* of the Shops, is a more certain and safe Medicine in its operating, and is equally as efficacious, if not more so, it must be allowed to be a better Medicine than any of those antimonial Preparations are, as it is safer and more certain in its Operation; if it be judiciously given at the proper time of the *Fever*, and fitly adapted to the Case, the Symptoms, Age, and Strength of the Patient, and is given when it is truly indicated; doing which shews the Judgment of the Physician: And seeing that most of the other *antimonial Medicines* are so uncertain, and sometimes violent in
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their Operations, I think that no honest conscientious Man will venture to give them in many Cases, where they have been given, if he thinks the sixth Commandment is to be regarded.

The Business and true Art of the Physician is to truly know the Disease, what *Fever* it is, what is its *Cause*, and how it is produced; and also what way *Nature* takes to carry that *Fever* off, and what she indicates to the Physician to do, and how he should assist her. For common Sense will tell every Man that thinks, that no one Medicine, how efficacious soever it may be in some particular Cases, can either be proper in all Cases, or in all *Fevers*, much less can it be suitable at all times, in any one *Fever*, neither to all Constitutions, no more than one Coat can be made to fit all Men of all Ages; therefore it must often either do no good, or as often do much hurt.

And as to the ignorant Pretensions of forcing *Nature* to bring a *Fever* to a *Crisis* when we please, as the vain *Asclepiades* and the enthusiastick *Chemists* pretended, every one who knows but the least of the animal Oeconomy, and has ever observed how different the Times of the *Crisis* are in different *Fevers*; some in one Day's time, and others not till after the 40th Day. And if he has ever observed the Motions and Progress of *Nature* in *Fevers*, he cannot but know

know that the *Miasma*, or *morbid Matter*, which causes a *Συνέχης*, or a *slow continued nervous Fever*, or an *inflammatory epidemical Fever*, cannot in any of these be concocted and fitted to be cast out of the Body by a critical Evacuation, so soon as the morbid Matter, which causes an *Ephemera* can, as that is usually effected in twenty-four Hours time; although any of those Fevers may come to their *Crisis*, on a different Day, in different Years.

Besides this, the Difference of Constitutions, Ages, Sex, and Strengths, and various other Circumstances, which must be considered and allowed for in different Patients, must make it evident and clear to every honest Physician, that knows how to think, that no Medicine, how efficacious soever it may be, when given at some particular time of a *Fever*, or in some particular *Fever*, can no more bring any *Fever*, or any one *Sort of Fever* to its *Crisis*, when we please, or in so short a time as is pretended, no more than a *Pill*, *Drop*, or a *Paper of Powder*, can bring the *Small-pox* to Maturity in one Day, or make a Boy a lusty Man in one Year; since *Fevers* differ as much in their Manner and Times of coming to their *Crisis*, and going off, as they do in their *Causes*, *Symptoms*, and all their other Appearances, or in the Methods of curing them.

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but I have no Prejudice against any Person in saying this, neither any self-interested, or any other View, but the general Good of Mankind, by endeavouring to prevent the many Injuries which are daily done by the Ignorance of Quacks.

Van Helmont was a learned Man, and acquired a great Name and Reputation, at least for some time; but as neither his *Theory* or *Practice* were founded on *Nature* or *Reason*, nor conformable to them, the more judicious Physicians soon saw the Errors of them, and the Falacy of his new invented chemical Terms and unmeaning Phrases, which only contained the Shadow, and not the Substance of the *medical Science*; therefore both his *chemical Theory*, and his *hot Regimen*, together with his *Writings*, soon sunk into a State of Oblivion after his Death.

Notwithstanding that the *chemical Art* was thus greatly improved by these extraordinary Men, who invented or discovered many valuable and useful Medicines, which they introduced into the *Practice* of the *medical Art*, in a no less extraordinary empirical Manner; and thereby shewed others the Way to follow them in such a quacking Practice: Yet we must allow, that the more able and learned *Chemists* have greatly enriched and improved the *Materia Medica* since, by making many curious Experiments,

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and thereby discovering several new and very efficacious Medicines; not only from those Semi-metals, *Mercury* and *Antimony*, and the various chemical Preparations from them, but from the more perfect *Metals*, and some other mineral Bodies, as well as a great Variety of Medicines which are prepared from both vegetable and animal Bodies; as, Salts, Oils, Essences, Spirits, Tinctures, Elixirs, and Extracts, &c. too numerous to be mentioned here, and not necessary, as they are well known to *Physicians*; for all which we are wholly indebted to the *Chemists*, as they were first invented and introduced into the *medical Art* by them: Although the Use and Application, as well as the Methods of administering them to the Sick, to cure various other Diseases, than they were first used for, has been greatly improved since, by several learned and ingenious Physicians; not only in curing the Venereal Disease, which was a new Disease in *Europe* at that time, and often evaded their Attempts to cure it, with the best and most efficacious Galenical Medicines they had, till they discovered the Virtues and Uses of *Mercury*, and some of the Preparations from it, which they found not only effectually cured it, but various other obstinate Diseases. The *Arabians*, it is true, were the first that used *Mercury*, and some of the Preparations or Sublimations from it,

as a Medicine; but they used it chiefly externally^k; as, to cure the Itch, Scabies, Morphea Alba, Nigra, the Albaras, and Afapha: But *Mercury* is found to aggravate and increase the Virulency of the *Lepra Arabum*, which the *Greeks* by Mistake called the *Elephantiasis*; but it has been lately found that *Antimony*, and some of the chemical Preparations from it, has cured that terrible Disease, when taken in time^l, tho' it has been always called an incurable Disease^m; as it really is so, when grown inveterate, and is further advanced. And it is most probable, that all the medicinal Virtues of that valuable mineral *Antimony*; and the chemical Preparations from it, are far from being so fully known (though some of them are) but that they may be further discovered, and its Use further improved in several Diseases, by careful Experiments and accurate Observations; judiciously made by able Judges, who can reason right from such Observations, and can truly account for both their good and bad Effects, and know how to remove the latter; which never can be expected from the Hands of *Quacks*, who use them the most, but do not know the better from the worse Preparations of it, or probably know no other but that one or two

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which

^k Vid. Rhazis, Haly Abbas, Avicenna, et Mesue in locis ante citat.

^l Observations on the Diseases, &c. of Barbadoes. On the Arabian Lepr. p. 329, &c.

^m Boerhaav. Elem. Chem. Vol. 1. p. 15.

which they have; and can neither account for the Cause of any Disease, or tell how their Medicine cures it, when it chances to do so.

During the same time that *Anatomy* and *Chemistry* were thus much improved; a new and extraordinary Disease was brought into *Europe* by the famous *Chr. Columbus's* Sailors, from the Island of *Hispaniola* in the *West-Indies*, where it was infectious, and was called by the Indians *Paturfa*, by the Europeans the *Lues Venerea*, or *French Pox*. It was brought into *Italy* by those Sailors in the Year 1494^a, when King *Charles* the VIIIth of *France* was besieging the City of *Naples*, and communicated to his Army; and in a few Years after was spread into most Parts of *Europe*, *Asia*, and *Africa*^o. This Disease was indigenous in *Hispaniola*, and was not known in *Europe* before this time; so that the European Physicians were, at the first Appearance of it, entirely at a loss to know what Disease it was; and no less so, how to cure it. From the Appearance of some of its Symptoms, some supposed it to be a Species of that Kind of Leprosy, which is the true *Lepra Arabum*, and by Mistake called by the Greeks *Elephantiasis*, though the *Elephantiasis* of the *Arabians* is a very different Disease. Others,

from

^a Fallopii Opera, et in Aphrodisiac, de Morb. Gal. p. 762.
^o Leo African. Histor. Afric.

from the great Blotches and Scabs, which it then appeared with, supposed it to be a Species of that Kind of *Lepra*, which is now called the *Yaws* by the *Africans*, and most probably was the *Leprosy* of the *Jews*: Both which Diseases had been brought into *Greece* and *Italy* some hundred Years before, and most probably from *Aegypt* or *Arabia*: However, these Diseases were brought into *Spain* by the *Saracens*, soon after they conquered a great Part of that Kingdom, almost five hundred Years before this Time. All these three Diseases, viz. the true *Lepra Arabum*, the true *Elephantiasis* of the *Arabians*, and the *Lepra* or *Yaws*, are described by *Mohamed Rhazis*^a, *Haly Abbas*^b, and *Avicenna*^c; although these Diseases have been mistaken and confounded with each other, both by some of the *Greek* and most of the modern Physicians; yet they are three different Diseases^d, and are all contagious, as well as the *Lues Venerea*: and some have supposed the true *Elephantiasis* of the *Arabians* to be so also; but I have not observed that it is so, though it may be an hereditary Disease. That the *Lues Venerea* is an infectious, or contagious Disease, is very well known, though the Virulency of its Poison, its Cause, Manner of being produced and

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propagated,

^a Rhazis Oper. ad Almanzor. et Division. ^b Haly Abbas. in Theor. & Practic. ^c Avicenna Canon. Med.

^d See Observ. on the Air and Diseases of Barbadoes, p. 304, 322, and 339.

propagated, is greatly different from all those other three, and from almost all other Diseases that we know.

If we look into the Collection of the first Writers upon the *Lues Venerea*, after its first Appearance in *Europe*, called *Aphrodisiacus*^u, which was re-published by the learned *Professor Boerhaave*, Anno 1728, we may see how the Physicians of that Age were so strongly attached and bigoted to the *Theory of Galen*, and that of *Avicenna*, which was the same, that they either so wrested the Symptoms and Appearances of this Disease, to make them conform to what those two Authors had said, or so strained what they said in their *Theory* on the *Lepra*, and some other Diseases, as to make their *Theory* of this Disease, and their Method of accounting for its Cause, Manner of Production, and all its Symptoms, as well as their Method of curing it, conformable to the *Theory* and *Practice* of those two eminent ancient Authors, though neither of them had ever seen, heard any thing of, or ever mentioned this Disease; and they have taken many Quotations from them both for that Purpose. And as the *Lues*, at its first coming into *Europe*, usually appeared with large Blotches and Scabs, all over the Body, something like those which usually

^u This Work contains what the 60 First Authors write on this Disease.

usually attend that Kind of *Lepra*, called the *Yaws*, which are usually only in some particular Parts of the Body; and at other times with some Symptoms, which are a little like some of those which attend the *Lepra Arabum*; some of them thought it was a Species of the one or the other of those Diseases; but the *Lues* differed greatly in all its other Symptoms, and its Nature, from either of them. The Symptoms, which attended the *Lues* during the 40 or 50 Years, after its first coming into *Europe*, were, first, Pustules about the genital Parts, which soon after spread over the Body, especially in the Face, and were attended with much Pain, some of which turned to excoriating Ulcers; some had Ulcers in the Penis, attended with a burning Heat; then came on nocturnal Pains, Shankers, Nodes, and Ulcers in the Joints, a Hoarseness, Ulcers in the Uvula and Nose, a Caries in the Bones, which sometimes were eaten away, and Phagidenick Ulcers in various other Parts of the Body, and a Caries of the Bones there also. But no Appearance, or any Mention is made of either Buboes, or a Gonorrhœa then.

As to their first Attempts to cure it, various Methods were tried, by Bleeding, Purging, Bathing, and Anointing, &c. but they were all without Success; till *Jacobus Berengarius*, an eminent Surgeon, and a

great Anatomist, of *Carpe*, who was the first that cured this Disease with a mercurial Ointment, which carried it intirely off by a Salivation; and by which he gained both a great Reputation and great Riches. The *Arabians*^k were the first that used either *Crude Mercury*, or a *Chemical Sublimate* from it, mixed with Lard or other fat or oily Substances made into an Ointment, with which they cured the *Itch*, the *Morphea Alba, et Nigra*, the *Albaras*, and *Asapha*, several hundred Years before; and it is probable that he took the Hint from them.

And *John de Vigo*, who was Physician to *Pope Julius* the II^d. got the Knowledge of the Use of *Mercury*, in the Cure of this Disease, from *Berenger*, whom he succeeded in his Practice, and also gained great Riches by it: He also had, and describes a *mercurial Cerate*, which he very much recommends in this Disease.

And it is said that *Paracelsus* stole this Secret from *Berenger*, with which he quacked, and got so much Riches and Fame, as made him so insolent, as to write that audacious and brutish Letter to the *King of Spain* and the *Pope*, when they sent for him to come to cure some Persons of great Distinction at the Courts of *Spain* and *Rome*, and he refused to come; for which, and his

^k Vide Rhazis, Avicenna, Albucasis, et Mesue.

his immoral Drunkenness, the Pope threatened to excommunicate him ¹.

Fracastorius, who died in the Year 1553, and published his Treatise on this Disease, and his Poem called *Syphilis*, not long before, says ^m, that about twenty Years before he wrote, and forty Years after the first Appearance of this Disease in *Europe*, the Symptoms of it were very much changed from what they were before, and the Pustules became much fewer, and the Nodes more numerous; but within the last six Years, the Change was still greater, when very few Pustules appeared, and those hard and dry, attended with little and almost no Pain, but the Nodes were many; and what was the most extraordinary was, that their Hair, Beards, &c. almost all fell quite off, and they appeared ridiculously with bald Heads, and often lost their Teeth; both which may be ascribed to the Use of *Mercury* in the Cure. No doubt but the Loss of the Teeth was from thence, from a Want of their knowing how to manage them better; but the Loss of their Hair was probably from the Disease; and some lost their Eyes. *Fracastorius*, I think, is the first among the Moderns that distinguishes (however the most clearly) not only the *Lues Venerea*,

¹ —It is neither Thou Philip, nor Thou Leo, that can hurt me, or I fear,—for I have a Mine of Gold, as good as the King's in Mexico, &c. meaning the Riches he got by curing that Disease.

^m *Fracast.* in *Aphrodisiac.* p. 200.

Venerea, from all the different Kinds of the *Lepra*ⁿ, but he also clearly distinguishes the *Lepra Arabum*, which the *Greeks* called Ἐλεφαντιάσις, from the true *Elephantiasis* of the *Arabians*, and from the other Sort of *Lepra*, now called the *Yaws*, but from the true *Lepra Græcorum* also, as they are four very different Diseases.

Although many were cured by the Use of the *mercurial Ointment*, yet many died under that Course of Salivation; probably from the Unskilfulness of their Physicians and Surgeons, not knowing then how to treat their Patients right therein: One *Gonsalvus Ferrandus*^o, or *Gonsalvo Ferrand*, a *Spanish Gentleman*, and an *Historian*, who got the Disease at the Siege of *Naples*, and not meeting with a Cure in *Italy*, sailed to the Island of *Hispaniola*, from whence the Disease came, to find how the *native Indians* cured themselves there, which he found was by the Use of the *Lignum Guajacum*; and being cured by it, he first brought it (in a large Quantity with him) into *Europe*, and cured many with it, after his Return home, by which he gained great Riches; and this Method of Cure by the *Guajacum*, was soon as much in vogue as the *mercurial Unction*, especially among the *Spaniards* and *Italians*, so that it was sold for seven Gold Crowns, near 34 Shillings *Sterling* a Pound.

ⁿ Idem, p. 204.

^o *Aphrodisiac*. p. 355.

Pound. And the Use of the *Sarsa-parilla*, and the *China Roots*, were soon after brought from *South America*, and found to be full as efficacious as the *Guajacum* in curing it, especially the first of them; and has lately been found to succeed in some Cases in this Disease, when the other, and even *Mercury* has failed.

After this, all who treated on this Disease, describe the Manner of using all these three, as well as the *mercurial Unction*; though there probably is not much Virtue in the *China Root*. But they are described by none more accurately and fully, especially in regard to the Regimen, &c. to be used with the *Guajacum*, than by *Ulricus de Hutten*^p, a German Knight.

Nicolaus Massa, who published his Treatise on this Disease, in Anno 1563, treats pretty largely and fully upon it, and its Symptoms, and also upon the Method of curing it, both with *Guajacum*, *Sarsa-parilla*, and *China Roots*, and *mercurial Unction* also; upon all which he is very minute and full: And he is the first that mentions *fumigating* with *Cinnabar*^q in this Disease (for the *Arabians* had used it long before in some other Diseases) and he is no less so, in his directing a suitable Regimen to each of them,

^p Idem, p. 275, et in Præfat. Idem, ab H. Poerhaav.

^q Idem, p. 99.

them, and is very accurate in the Patients Use of the *six Non-naturals*.

But both *N. Massa*, and most of the other Authors who wrote on this Disease about this Time, were so very fond of the Theory of *Galen* and *Avicenna*, that they frequently quote them to prove many things which they never saw, or ever heard any thing of; and often appeal to the *Greeks* for a Proof of them. However, *Massa* says, *adsunt—Apostemata Inguinum, quæ si suppurantur remouent Ægritudinem*; by which he seems to mean *Bubo's*.

But *Fernelius*, who died five Years before him, viz. in Anno 1558, aged 52, I think is the first that mentions the *Bubo* and a *Gonorrhœa**, which was about 50 or 56 Years after the first Appearance of this Disease in *Europe*: From whence we must conclude, that a *Gonorrhœa*, which is so frequent an Attendant on this Disease now, never had appeared before this Time; since if it had, so remarkable a Symptom could not possibly have escaped the Observation of so many Physicians as wrote upon this Disease before him, yet none of them mention it.

Gabriel Fallopius the younger†, who wrote soon after these, has given us the most full and clear Account of this Disease, and all its Symptoms; and describes all the different

* *Aphrodis.* p. 614.

† *Idem*, p. 761.

different Methods of curing it, which were then used, very minutely; and is very particular in describing all the Changes and Effects which are produced in each Method, viz. by giving the *Guajacum*, the *Sarfa-parilla*, and the *China Root*, and mentions both the good and bad Effects of the *mercurial Unction* and Fumigation, when injudiciously used; and tells us how to prevent or remove those bad Effects, which in some Cases and Constitutions will happen when the Salivation is raised too high, if not relieved in due time. But several considerable Improvements have been made in the Method of treating and curing this Disease, by the *modern Physicians* and *Surgeons*, not only in the Manner of treating a *Gonorrhœa*, but in the Use of the *mercurial Unction*, and *fumigating* with *Cinnabar*, when they are necessary; but a much more easy way to the Patient, and as successful, or more so in some Cases, by giving the *Mercurius Calcinatus* in a proper manner, and the Decoction of the *Sarfa-parilla*, which I have known to succeed several times, when a *Salivation*, by giving Mercury internally, and by mercurial Unction, have both failed, and where *Chiconeau's* and *Default's* Methods have failed also.

Soon after this, another *new Disease* made its first Appearance; as we have no Account of its having been seen in any
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Country that we read of; the *Rachitis*, or *Rickets*, a Disease which neither any of the *Greek*, *Roman*, or the *Arabian Physicians* make the least mention of; and is said to have first appeared in the inland Parts of our *Island*, some time before the Year 1560. Our learned Countryman Dr. *Glisson* gave us the first Treatise on that Disease, which he has described very accurately, with all its Symptoms and its Causes, and the Method of treating and curing it.

This Disease, though it is not in the least infectious, yet in a few Years after spread itself and appeared soon after in most of the northern Nations in *Europe*, and has continued to appear more or less ever since; and is now some chance time seen in the warmer Countries, though not so frequently as it is in the colder northern Nations. It only seizes Children, and most commonly between the Age of nine Months and two Years old; but usually continues to affect them from that Time, till they are full grown, if they are not properly treated and cured. The first Symptoms of its Appearance, are a large Head and Face, which as well as the Neck is very flaccid and weak; the Belly protuberant and full, large full Joints, the Epiphyses of the Bones being enlarged, the Muscles and the rest of the Body are relaxed and wasted; the carotid Arteries and jugular Veins are enlarged and full;

full; the others in the rest of the Body not so, but rather wasted and less; the Bones of the Legs, Back, or Arms, begin to be incurvated, and grow crooked, &c.

As this Disease appeared soon after the coming of the Venereal Disease, it was supposed to proceed from some Venereal Taint; but there are many Instances of Children having it, whose Parents and Nurses never had the least Touch of that Disease, as there may have been some others who had.

But as the learned *Professor Boerhaave* has so accurately, truly, and fully described all its different Causes, and the Manner of its being produced, as well as the Method of curing it in so judicious and full a manner, that nothing more can be added to it, I cannot do the Reader more Service or Justice than refer him to what that *learned Professor* has wrote upon it †.

It may not be improper to mention here, another Disease also; which though it most probably had affected the Inhabitants, especially in maritime Places, in the colder northern Nations, for many Years, if not Ages before this Time; but as they either had not any Physicians, or Men of Learning among them, that have taken care to observe and describe it, or at least have not left us any Description of it before this Time;

† H. B. Aphorif. de Cog. et Cur. Morb. §. 1480, &c. et *Prelecta Bar. Van Swieten super hæc Aphor.*

Time; neither have any of the *Greek, Latin, or Arabian Authors*, so much as ever mentioned it; wherefore it has been generally esteemed, and thought to be a *new Disease*, and is now called the *Scurvy*; so called from its *German Name Scharboock*, which signifies an *Inflammation* in their Language. *G. Fabricius* says ^u, that it first appeared in the Year 1486 in *Germany*, and spread itself very much; and not only proved very dangerous, as it often ended in a *Gangrene*, but carried Contagion with it; and he calls it a new and unheard-of Disease. And it soon after spread into *Holland, Denmark, Britain*, and the other northern Nations, where it has been sometimes more, and other times less *Epidemical* ever since.

There was another Cause, which contributed much at this Time to the Increase of this Disease, viz. the long Voyages now made into both the *East and West-Indies*; the Ways to both which were discovered a little before this Time, before which the maritime Inhabitants never made any long Voyages; but after they were discovered, the People who made those Voyages were frequently detained two, three, or more Years on board the Vessels, without the Use of Vegetables, and fresh Provisions; and were obliged to live upon Salt-meats, and often to use putrified Water, and so
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^u In *Antiquitat. Misniæ*.

many People confined to the narrow Compass of one Vessel, where the Air that they breathed was putrified, and mixed with putrid Exhalations; from all which the putrid Sea Scurvy was generated, and brought on Shore at their Return home, and so spread among the People; and thus the Disease was greatly increased and propagated. But as *Severinus Eugalenus* has given us an Account of this Disease, its various Causes, and the Manner of Production of it, and the Methods which he found to be the most successful in curing it, and is the first Physician that wrote upon it; and since that Dr. *Bruner*, *Brucerus*, *Senertus*, and several others, have done the same: But as the learned *Boerhaave* has so well described this Disease, and so accurately distinguished its different Kinds and their Causes, and so judiciously adapted their different Methods of Cure, to each Species of this Disease, according to its different Causes; so that nothing more can be added to what he has said in his *Aphorisms*^w, and in the Explanations which he gave of them in his Lectures^x: I must beg leave to refer my Readers to the attentive Perusal of them, where they will meet with a full and satisfactory Account of this Disease, and its Causes, as

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^w Vide H. Boerhaavii Aphorism. de Cog. et Cur. Morb. §. 1148. ^x See his Lectures, published by the learned Baron Van Swieten, upon them.

well as its Method of Cure, which is too large to be inserted here.

It was reasonable to expect, that the making the two great Discoveries of the *Circulation of the Blood*, and of the *Insensible Perspiration*, and the various Improvements in Anatomy, by the means of making careful *Observations* and accurate *Experiments* at this time, would have induced several other ingenious Physicians to have pursued the same Methods, in order to have made further Discoveries and Improvements in the *medical Science*: If these various Accidents and concurring Circumstances had not happened a little before, and near the same time, which diverted the Thoughts of many of the Learned from pursuing those Methods of making such Observations and Experiments, as would have enabled them to make such Discoveries and Improvements. The first of which was, the Appearance of these three extraordinary and *new Diseases*, the *Lues Venerea*, the *Rickets*, and the *Scurvy*, which so much engaged the Attention of most of the learned Physicians of that Age, in order to discover the Causes and Nature of those *new Diseases*, and the Methods of curing them. Whilst several others were intent upon either discovering some new chemical Medicines, or in endeavouring to discover the medicinal Virtues and Uses of those new invented chemical
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Preparations, which were found out before, and how to apply them, in order to cure those new Diseases, or some others; whilst those of inferior Abilities were taken up with boasting and extolling the Virtues of some other chemical Medicines, which they pretended would infallibly cure all Diseases, which they kept as *Nostrums*, as Quacks in all Ages have done. But what most probably was the greatest Hindrance to the Improvement of all medicinal Knowledge was, that the Generality of the Physicians, of that and the preceding Ages, were so rigidly attached and bigoted to the *hypothetical Theory of Galen*, and so firmly believed his imaginary philosophical *Hypotheses* to be true, that it was looked upon as high Treason in Physick to disbelieve or doubt of the Truth of any of them, though no real Improvements ever were, or could be made by them. The *Chemists* really made many great Discoveries of several very useful and valuable Medicines, and great Improvements in the Method of curing many obstinate Diseases with them: And several learned Men discovered the right Method of treating and curing those three Diseases, and thereby made many great Improvements in the medical Science. But those *galenical Theorists* made none, and only applied the subtle Divisions of *Galen's* Temperaments, Faculties, and Qualities of the

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Humours, and such like imaginary Terms, which had no real Existence in the Body, or any where else, but in their own Imaginations, to silence their Opponents with, in their philosophical and theoretical Disputations, as they often had no real Meaning or Sense, which could be any way properly and truly applied to the real Motions and Actions of *Nature* in the Body: Therefore they could make no Improvements in the medical Science, nor serve any other Purpose than that of amusing and diverting the Minds of the Learned and Ingenious, from pursuing either the ancient judicious *Hippocratick* Method of carefully observing Diseases, their Symptoms, Progress, and their Diathesis, and so discovering their Causes; and by observing what *Nature* did, or indicated to be done, learn of *her* how to cure them: But it also diverted them from pursuing the Method of making Observations and Experiments, as the ingenious Dr. *Harvey*, *Sanctorius*, *Vesalius*, and a few others did; and by which anatomical and medicinal Knowledge, might have been greatly improved.

This continued to be the State of Physic till some Years after the great Lord *Verulam* had detected the Errors and Fallacy of the *Aristotelian Philosophy*, and exploded them. And as the *Theory of Galen's Physick*, and all his imaginary *Hypotheses*, were founded upon

upon the *Principles* of that *Philosophy*, which were only supposititious and false; so must his *Theory* be also, though it had been for many Ages, and was then the only *Theory in Fashion*: But as his *Lordship* had proved them to be erroneous, the more learned and wiser Part of Mankind now began to enquire into the Truth of what his *Lordship* had said; and saw that it was by those very Means and Methods, which he advised and recommended, that the two above-mentioned great Discoveries were made: This therefore induced several *learned Physicians* and great *Anatomists* to pursue the same Methods of making *Observations* and *Experiments*, in order to make further Discoveries and Improvements, both in anatomical and medical Knowledge: And accordingly we find that many great Discoveries and very useful Improvements were made thereby, in both those *Sciences*, soon after. As, by Dr. *Lower*, who wrote on the *Heart*; Dr. *Ridley* and *Willis* on the *Brain*; Dr. *Glisson* on the *Liver*; Dr. *Wharton* and *Steno* on the *Glands*, which were afterwards much further improved by *Professor Nuck* in his *Adenographia et Siolographia*; Dr. *Bruner* on the *Pancreas*; *Pequet* on the *Lacteals*, *Receptaculum Chyli*, and *Thoracick Duct*; *Leal Lealis* on the *Spermatick Vessels*; (*Fallopious* had discovered the *Fallopian Tubes* before;) *Drilincourt* on the *Spleen*; De Graase

Graafe de Organis Generationis Mulierum, et de Pancreate; Swammerdam de Utero; Malpigijs de Glandulis, et de Ovo Incubato; Vieussens in Neurographia, et de Novo Vasorum Systemate Corp. Hum. Dr. Havers and Palfin on the Bones; Gagliardus on the Teeth; Dr. Hovius on the Eyes; Valsalva, Du Verney, and Shelamere on the Ear, and on Hearing; Peyerus on the intestinal Glands; and not long since, by the three eminent Professors Ruysch, Albinus, and Morgagni, the three greatest Anatomists of this or any other Age.

Cotemporary with several of these last named eminent Physicians, lived the no less eminent and judicious Dr. THOMAS SYDENHAM, a Man of great Penetration, sound Judgment, and the greatest *Probity*, who the great BOERHAAVE says ^a, “ Was
 “ the Ornament of *England*, and the *Apollo*
 “ of the Art; whom I never consider but
 “ my Mind presents me with the true Pic-
 “ ture of an *Hippocratick Physician*, and to
 “ whom Physick is so much indebted, that
 “ all I can say will fall short of his Merit.”
 He clearly saw and duly considered the Insufficiency and Fallacy of the *Theory* and imaginary *Hypotheses* of the *Galenical Physicians*, and the Absurdness and pernicious Effects of the *hot Regimen* of the *Chemists*, and their Followers: And therefore he judiciously

^a In Oratione de Commend. Stud. Hippocrat.

diciously revived and restored the ancient *Hippocratick* Method of observing Diseases, and their Symptoms and Progress, and what *Nature* did, or indicated to be done; and then carefully followed those Methods which she indicated him to take, being very sensible that it was the most safe and effectual Way, and the best Method he possibly could take, to assist *Nature* to carry off Diseases, and their Causes, by such a critical Evacuation of the morbid Matter, as she indicated, as the great *Hippocrates* did; for which he has been called the *British Hippocrates*.

It was by the same Method of observing *Diseases* and *Nature*, that he was enabled to make so many useful Observations and great Improvements in the *Practice of Physick*: First by diligently observing the different Seasons of the Year, and the various Changes of the Air and the Weather, and how they differed in different Years; how those Changes affected the human Body, and what Alterations they produced therein; and what kind of Fevers, or other epidemical Diseases, either accompanied or followed those Changes of the Air; and he as carefully described all the different *Fevers* and Diseases, with all their peculiar Symptoms, as they appeared; how and with what Symptoms each of them came on; how they proceeded, and came to their Height; and how they declined, and came

to their *Crisis*; and by what critical Evacuations each of them were at the last carried off: He also carefully took notice of the Number of Days in which each of those *Fevers* came to each of those Changes, and what Symptoms attended each of them in each Year, and remarked wherein they differed.

And by thus diligently watching Diseases, and as carefully observing all the Motions and Actions of *Nature*, and what Ways and Methods *she* did take, when *she* produced the best and most salutiferous Effects; *he* was thereby instructed as *Hippocrates* was, by the same Master, *Nature*, both to know what *she* indicated to him to do, and what Methods he should take, in order to assist *her*, in the best and most effectual manner, to bring on a regular *Crisis*, and so carry the Fever, and the morbid Matter which caused it, entirely off.

Thus he was instructed by *Nature*, and learned to know, that when he found the Commotion of the Blood, and the Height and Violence of the Fever was too great to bring on a regular *Crisis*, and produce those salutiferous Effects, both how and when he should moderate and abate that Commotion of the Blood, and the Height of the Fever, either by Bleeding, or by some other Evacuation, accordingly as *Nature* indicated, so as to render the Fever moderate, and fit to
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carry on the Concoction of the morbid Matter in the best manner, and so assist *Nature* in the most judicious way, to bring on a regular *Crisis*, and carry off the Disease by a critical Discharge, in the safest and most effectual manner. And on the contrary, when *he* found *Nature* too weak, and the Pulse too low and small, and the Motion of the Blood too languid, sufficiently to 'commminute or break, and concoct the morbid Matter, so as to fit it to be carried off by a critical Discharge: He thus learned to know when and how he should increase the *Vis Vitæ* and Momentum of the Blood, by the Use of Cardiacks, Blisters, and a more cordial Diet, so as to assist *Nature* to effect that salutiferous Work. Thus he was taught by *Reason* and *Nature*, both when and how *he* should assist *her*: And *he* has beneficently told us what Methods he found were the best and the most successful, as well as when he had used any Method which did not succeed according to his Expectations.

By this Method of observing the Progress of epidemical Diseases, and what *Nature* did in the Cure of them, he not only learned how to treat and cure them, but it discovered to him the bad and pernicious Effects of the *fiery hot Method of treating Fevers*, which the *chemical Physicians* had introduced into the *Practice of Physick*,
which

which was then much in vogue: Therefore *he* judiciously opposed and exploded it, and exposed the fatal Effects of it, and wisely substituted the rational and more successful cooling Regimen, which he revived and introduced into Practice, in its Place; not only in the Cure of the *Small-pox* and *Measles*, but in other *Fevers*, especially in all those of the *inflammatory Kind*, and in all inflammatory Diseases: And taught them, and us, how to cure those Diseases by Bleeding, and the Use of cooling antiphlogistick Medicines, and a cooling, diluting, attenuating Regimen: To which, in some Cases he judiciously added cooling antiphlogistick Catharticks; as, in the *inflammatory Rheumatism*, *Quincy*, the *Notbous Pleurisy*, and *Notbous Peripneumony*, and in an *Ophthalmia*, and some other *inflammatory Diseases*: In all which he carefully observed *Nature* and *her* Indications, and so judiciously timed those Evacuations, as always to assist, and never to oppose or hinder *Nature* in her salutiferous Endeavours: And *he* was enabled to know how to do this, by the means of careful Observations and judicious and true Reasoning. And the learned *Boerhaave* has since demonstrated the Truth and Judiciousness of that *Practice*; and both *he* and several other eminent Physicians have confirmed the Rectitude of it, by their successful Practice of it since.

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He also first discovered the right Method of giving the *Peruvian Bark*, a valuable new Medicine then, which had been imported from *America* into *Europe* a little before that time; the Virtues and right Use of which were not then well known: And as some Physicians had then found it to be so successful in curing intermitting Fevers, it induced them to give it in some that were continual, in some of which it proved to be very injurious or fatal; and so it has proved ever since, at certain times, when so imprudently given: And some others have been so injudicious, as to give it in some inflammatory Fevers, in which it generally proves to be fatal, if not timely prevented; by which Practice that valuable Medicine had almost entirely lost its Credit, and was very near being entirely rejected out of the Practice at that time, though the Fault was not so much in the Bark as in the injudicious Method of giving it; till the honest and worthy Dr. *Sydenham* both restored the right Method of giving it in intermitting Fevers; and discovered the bad and sometimes fatal Effects which it had, when given in continual Fevers; more especially in those of the inflammatory Kind, or where Obstructions are already formed, or are beginning to form, or an Inflammation is beginning to form, in any of the Glands of the Viscera; in all which Cases, giving the
Bark,

Bark, produces such *irremoveable Obstructions*, that they either end in a Suppuration of the Part obstructed, in a Schirrus, or in a Mortification of the Part, and the Death of the Patient; but most frequently in the first, as I have several times seen, and have opposed giving the Bark, and more than once predicted its producing such Obstructions, if given; and have seen the Predictions more than once verified. And when the Bark is given where Obstructions are already formed, more especially in the Glands of the Viscera, which too frequently happen in wet or moist warm Countries, as in the uncultivated or half-cultivated *West-India* Islands, and on the North-coast of *South-America*, and too often in the low marshy Lands in *England*, and in *Holland*, &c. If the Bark be given without previously removing those incipient Obstructions, it generates irremoveable Obstructions; and if they are already formed, it renders them incurable, so that nothing but a Suppuration, and a total Destruction of the Part, can cure it; but they too often end in the Death of the Patient, as that sagacious and learned Physician Dr. *Boerhaave* has judiciously and truly observed; and as several other eminent Physicians have found to be true, in their Observations made since. And I may add, that I have too often met with such Obstructions which had been so formed,

formed, and I question not but several other Physicians have observed the same in their Practice: And I have also several times foretold, that if the Bark was given in such Cases, that it would produce such irremovable Obstructions, and could not therefore join in giving it; and I have afterwards not only seen those Obstructions so formed and suppurated, but discharging large Quantities of concocted Matter or Pus: And in order to prevent such Mistakes for the future, is the Reason that induces me to mention it in so full and particular a manner here.

And we are greatly obliged to both Dr. Sydenham and Dr. Boerhaave, for their giving us such judicious and wise Cautions, as well as for many more which they have given us in other Parts of their most valuable Works. And Dr. Langrish¹ says, “*that in inflammatory Fevers the Bark is a direct Poison;*” and it is probable has been too often fatal, as I have seen when called in too late to give any Assistance, or prevent those fatal Effects; though I have, in some other Cases, seen where the *Bark* had been given in some inflammatory Fevers, that Bleeding, Fomenting, and a liberal Use of antiphlogistick Medicines, have saved the Life of such a Patient, and therefore I mention it.

I have

¹ Dr. Langrish Modern.

I have no prejudice against the *Bark*; when it is properly and judiciously given, it is a valuable and an exceeding good Medicine; but when it is improperly given, it does much mischief. Its extraordinary Effects in preventing, or putting a Stop to a Mortification, from an internal Cause, (but not when it is from the Arteries being ossified,) have been discovered since, and are now known to every Physician; as an Account of it was published above thirty Years since by the late Dr. *Douglas*, an eminent Man-midwife and Physician in this City.

To enumerate all the useful Observations, the judicious Remarks, and the many great and valuable Improvements which that honest, able, and judicious Physician Dr. *Sydenham* did make upon Diseases, and in the Practice of Physick, would be transcribing the greatest Part of his Works; therefore I cannot do more Service to every young Physician, than in strongly recommending the attentive Perusal of all *his Works*; and I may add, *et magis decies repetita placebit*.

Cotemporary with, and some Years after Dr. *Sydenham*, lived the truly great Sir ISAAC NEWTON, who was, and ever will be, an Honour to his Country.

This great Philosopher and Mathematician, applied himself early to the Study of Geometry, and all the other Branches of
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the Mathematicks, in which *he* made a prodigious Progress, under the Tuition of the great Dr. Barrow at Cambridge; and by diligently pursuing those Studies afterwards, and making many accurate Observations and judicious Experiments, improved by inductive Reasoning, as the great Lord VERULAM advised, he discovered, and demonstrated the Truth of the *Copernican System of the World*. But what is more to our present Purpose here, *he* by making many curious Observations and ingenious Experiments, assisted by inductive, geometrical, and mechanical Reasoning, discovered those *Laws of Motion* by which all *material Bodies* move and act, and produce all their Effects, (*Fire* only excepted, which moves and acts by *Laws* peculiar to itself only.) And as *he* has clearly demonstrated the Truth of those *Laws of Motion*, and from them, by the Assistance of just inductive Reasoning, formed a *new and true System of Philosophy*, and a *new Method of philosophical Reasoning*, which carried such Demonstrations of its Truth with it, and gave such a new Light into Philosophy, and all the Sciences, as clearly discovered the Truth of his System of the Universe; and at the same time shewed the Mistakes, and demonstrated the Errors of all the former Systems of Philosophy, which had been invented before; but it also shewed Man-

kind

kind the right Way to arrive at the certain Knowledge of Truth, in all such difficult and abstruse Subjects.

As he clearly demonstrated the Truth of those *Laws of Motion*, and that all the Motions and Actions of all Bodies (except *Fire*) may be clearly accounted for and explained by *them*; *they* have been universally received by the Learned of all Nations, where the Knowledge of them has come, as being certainly true; and as such, have been received into all the Arts and Sciences. And all other Systems of Philosophy, so far as they differ from the Principles of the *Newtonian Philosophy*, have been rejected as being erroneous.

And as the ingenious Drs. *Harvey*, *Sanc-torius*, *Vesalius*, *Eustachius*, and several other eminent Anatomists, had (not many Years before) made so many great anatomical Discoveries, and so much improved the Knowledge of the Structure, Use, and Action of the several Parts of the Body, and the Circulation of the Blood, and insensible Perspiration, as well as where most of the Secretions and Excretions, and the other Functions of Life are performed; as these are all performed agreeably to those *Laws of Motion*, and by *Hydraulick Laws*. And if these *Laws of Motion* had been always truly applied, when and where they are truly applicable, (and only where they can

be so truly applied) by Physicians, since Sir *Isaac* discovered them, to explain all the Motions and Actions of the human Body, and to account for all the Effects which are produced in the Body, by and agreeably to those *Laws*; as also to explain all the Effects produced in Diseases, mentioned and observed by *Hippocrates*, and all other Physicians since him; and had always kept their Reasonings, Explanations, and Inductions, as conformably to those *Laws of Motion*, the Laws of Circulation of the Blood, and the Motions and Actions of Nature in the Body, as Sir *Isaac Newton* did apply them to explain the Motions and Actions of *Matter* in all other Bodies; and then had taken care to confirm the Truth of all their Inductions, and Conclusions, by further Observations, as Sir *Isaac* did in *his*, we might have reasonably hoped to have seen medical Knowledge further improved, and brought to greater Perfection, than it is yet arrived to.

It is granted, that we cannot always apply those *Laws of Motion* so certainly and truly to all the Motions and Actions of *Nature* in the Body, as they may be applied to Matter, or Body; because we cannot so certainly discover the first moving Cause of *Nature*, whether it be from the Will, or from Sensation of the Part affected, or intelligent *Nature*, or whatever we call it, which probably either is not Matter, or

Matter of a superior and finer Nature ; but whatever it be, we can observe the Effects which *Nature* so produces, because they are produced in *Matter*, and by the *Laws of Motion of Matter* ; and we may, by carefully reasoning from those Effects, in an analytical Way, arrive at the first moving Cause, call it *Nature*, *Sense*, or *Sensation*, or what you will, which first puts the circulating Fluids in Motion, and increases that *Motion*, and then they act according to the *Laws of Motion*, whereby we may be enabled to explain how they produce their Effects.

To do all this truly, I grant, is a very difficult thing, and some may call it a Herculean Labour, as it requires much accurate Observation, the deep Penetration, sound Judgment, and indefatigable Application of an *Hippocrates*, and a *Boerhaave* ; therefore some may conclude that it never will be effected ; but such a Conclusion is not the Way to effect it.

The learned *Boerhaave* has gone a great Way in thus discovering the Causes, and the Manner of the Production of most Diseases, and in explaining both ; as well as in discovering and explaining the most rational, true, and most successful Methods of curing them.

And if this is the right Way to improve medicinal Knowledge, and to bring it to a State

State of greater Perfection, as it appears to be, let every judicious Physician, who has suitable Abilities, do his Part, where he sees the *Art* is the most deficient, and wants the most Improvement, whenever he has a Case, and an Opportunity of improving it, let him do it by the above-mentioned Means; so that it may be brought to be a real *medical Science*, founded on *scientific Principles*, in all its Branches, as it is now only so in some of them.

However we cannot but conclude, that if all the Physicians, who lived since Sir *Isaac* published his *Philosophical Principles*, or all who understood them, since they were introduced into the medical Art, and his Method of Reasoning; or all those who have endeavoured to introduce them into their *Theory of Medicine*, had as carefully avoided forming *Hypotheses*, and Reasoning from supposititious and imaginary *Data*, as *He* did; and had always truly applied and diligently pursued that mathematical and mechanical Method of Reasoning, from certainly known *Data* and real *Facts*, discovered and known by the before-mentioned anatomical and experimental great Discoveries; and had as carefully kept their Reasonings always conformable to the Motions and Actions of *Nature*, and what *she* really does, as they might have been kept, without listening or falling into *Hypotheses*, no

doubt but we should have seen the *medical Science* brought to greater Perfection than it is yet arrived to. But alas! Frailty and Imperfection are as inseparably connected with the Works of Men, as Instability is with their Minds, and Dissolution with their Bodies. And as it is a much easier Way to sit in their Libraries, and form *Hypotheses*, than it is to diligently observe Diseases, and their Progress, and carefully to watch *Nature*, and all her Motions; so we find, that soon after the before-mentioned great anatomical Discoveries were made, and this great *Philosopher* had discovered those *Laws of Motion*, and published his *Philosophical Principles*, and the Truth of them were known, and they were introduced into the Medical and the other Sciences, several ingenious and learned Physicians took the easier Way, and began to form *Hypotheses*; and several fine *hypothetical Theories of Medicine*, or of some particular Diseases, were invented, where *Hypotheses* should have no Place, any more than in Philosophy, as Sir *Isaac* justly observes.

And as they reasoned geometrically, or mathematically, and mechanically, they appeared more like Truth, and therefore were more easily imposed upon, and more readily received by many, as being true; because that Method of Reasoning appears so plausible, and carries such an Air and Appearance

ance of being *true*, that all their Inductions and Conclusions have been too often received for *Truths*; infomuch that that Method of Reasoning from imaginary Hypotheses and fictitious Data, soon became much in fashion in all the Sciences, especially in the Medical. But notwithstanding that this Method of mechanical Reasoning may be ever so mathematically true, or geometrically just, yet if the *Data*, which we reason from, are only supposititious and false, the whole Hypothesis, and all the Inductions from it, must be false also.

And as various Hypotheses were invented at that time by several ingenious and learned Physicians, which appeared so plausible, and so much like Truth, several of them, especially those which were not founded upon *Nature*, and certainly known Facts, but upon imaginary *Data*^a, led some Men of Learning and fine Parts, into various Errors and great Mistakes. But where they reasoned from certain *Data*, and known *Facts*, which were obtained by accurate Observations on *Diseases* and *Nature*, and what *she* really did^b, and mechanically explained her manner of acting, by and agreeably to those *Laws of Motion*, and perfectly conformable

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^a See Pitcairn on Digestion, &c. Dr. Willis, Bernouilli, Borelli, Keil, Cherrey, and some others. ^b Sydenham, Boerhaave, Bellini, Hermannus, Gulielmini, Michaeliotti, Wainwright, Helvetius, Mead, Freind, Hoffman, Winteringham, Hexham, and some others since.

to the Motions and Actions of *Nature*, and those Effects which she constantly produces in the Body, they made several considerable great Improvements in the *Theory*, and some in the *Practice of Medicine*; for which all their Successors are greatly obliged to them. But we must, for Truth's sake, say, that so much of their Writings, as are not founded upon, and conformable to *Nature*, but are founded upon imaginary Hypotheses, all their Reasonings and Inductions are only pleasing Speculations, which have been so far from improving the *Theory of Medicine*, that they have led young Physicians from observing Diseases, and *Nature*, their best Guide, and from pursuing those Methods by which they might both have obtained and improved medicinal Knowledge. And the more learned and eminent those Physicians were, who so fell into the Method of forming such false Hypotheses, the more Hurt they have done, and the more they have hindered the Improvement of medical Knowledge.

Let us therefore endeavour to separate those who have reasoned truly from real Facts, from the hypothetical Reasoners, and only adhere to and follow the first.

I neither dispute the Truth of the *Newtonian Philosophy*, or its *Principles*, but our Application of them in the *Theory of Medicine*; nor do I question, but that if all succeeding

ceeding Physicians had applied those Principles as certainly and truly to all the Motions and Actions of the human Body, when and where they could be so truly applied, (and had left them to the Discovery of future times, when they could not apply them truly,) and had reasoned as geometrically truly, as Sir *Isaac Newton* did, and had kept their Reasonings and Inductions, as conformable to the Motions and Actions of *Nature*, as *he* did to the Motions and Actions of *Matter*, and of the celestial Bodies, no doubt but their Inductions and Conclusions would have been as true in the *Theory of Medicine*, as *his* were in the *Theory of Philosophy* and *Astronomy*. Though it may be doubtful whether they can be so truly applied to all the Motions and Actions of *Nature* and *Matter* in the Body, as they are sometimes so mysterious and hidden, as they may be to the Motion of *Matter*, or of the celestial Bodies, though they are at so great a Distance from us; yet it is probable, that further Observations and Experiments may enable us to apply them truly to many more Motions and Actions in the Body, than they have yet been truly applied to, if we are but sufficiently diligent and careful in observing *Nature* and her Actions, and the Effects which she produces, and as careful not to admit any

Hypotheses into our Researches, and Reasonings.

It must be allowed, that several of those learned Physicians have made some considerable Improvements in the *Theory of Medicine*; yet we must confess that no very extraordinary Improvements were made in the *Practice* after Dr. Sydenham's time, till we come to that eminent *Professor Boerhaave*. Though several considerable Discoveries and Improvements in Anatomy were made by that great Anatomist Dr. *Frederick Ruysch*, *Professor of Anatomy and Botany at Amsterdam*, who discovered a curious Mixture of Wax, and some other Ingredients, with which he injected and filled the most minute serous and sanguiferous Arteries and Veins, and thereby discovered many of the smallest Vessels in all Parts of the Body, which were never seen or known before, and of which he has given us many curious anatomical Figures, of most Parts of the Body^c, especially of the minutest Vessels, where the different Secretions and the other Functions of Life are performed. Also *John Baptist Morgagni*, *Professor of Anatomy at Padua*, about the same time, made several other new Discoveries, of some other Parts of the Body, of which he has given us accurate Descriptions and curious Figures^d; and

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^c Vide Ruyschii Opera in Vol. 4. in 4to.
Adversaria Anatom. in 4to.

^d Vide

to whom we may add the no less eminent Anatomist *B. Sig. Albinus*, Professor of Anatomy, now Professor of Physick in the University of Leyden: These three eminent Professors seem to have carried their Discoveries, and the anatomical Art to great Perfection, though it is probable that they may be yet carried further.

Cotemporary with Sir ISAAC NEWTON, and these other eminent Men, lived the great Professor BOERHAAVE, who was no less eminent in the Profession of Physick, than Sir Isaac was in Philosophy.

He was an Honour to his Country, an Ornament to the Profession, and a Blessing to Mankind, as he was endowed with all the necessary Qualifications for making great Improvements in the *medical Science*; and accordingly he applied them with indefatigable Industry, to improve medicinal Knowledge for the Good of all Mankind.

He was born in the Village of *Voorhout*, two Miles from the City of *Leyden*, A. D. 1668. With great Application he made himself Master of most of the Oriental, the Learned, and most of the modern *European* Languages; and was an able *Geometrician* and *Mathematician* when he was young: He was perfectly well acquainted with the Works of *Hippocrates*, and all the *Greek* and *Arabian Physicians*, and with all the useful Works of all the *Moderns*, and particularly

particularly with all their anatomical Discoveries. *Hippocrates*, and *Sydenham*, were his greatest Favourites in regard to Practice, whose judicious Observations, and their great Probity, he very much admired and imitated. He was the greatest *Chemist*, and *Botanist* of that *Age*, and perfectly well versed in every Branch of the *Materia Medica*, a great Mathematician, a sound Philosopher, and well versed in all the Sciences: And to all these great Qualifications and Acquisitions we must add, that he was blessed with the greatest Penetration, the strongest Memory, and the soundest Judgment; all which he applied with indefatigable Industry, to the Improvement of medical Knowledge, and the Advancement of that *Science*. But it requires a more able Pen to draw the true Portrait of so great a *Man*; therefore I will only add, that with all these great Endowments, *he was an honest, humble, good, and great Man*: And we may truly say without Vanity, or exceeding the Bounds of *Truth*, he was the ablest and greatest *Physician* that any Age has produced since the great *Hippocrates*; and that HIPPOCRATES and BOERHAAVE were the two greatest *Physicians* that ever adorned the *Profession*, or the World ever produced.

With these great Abilities and this great Fund of Knowledge, he applied himself with

with indefatigable Industry, to the Improvement of medical Knowledge, and the Advancement of that ancient *Science*. And after making many ingenious and accurate Observations upon Diseases, he spent much Labour in collecting every useful Observation, Experiment, and every Discovery, and Improvement, which all preceding Physicians, from *Hippocrates* to that time, had made, that could be any way useful to that Purpose.

And as the great Sir *Isaac Newton* had discovered the *Laws of Motion of Matter*, and formed a new and true *System of Philosophy*, a little before this, the Truth and Use of which, in the *medical Art*, he clearly saw; and as this Philosophy had been introduced into the Medical and all the other Sciences, by several learned and ingenious Physicians, who lived a little before, or were Cotemporaries with him^e; and as several of them had published some ingenious *Theories* of some Diseases, and had investigated and explained the Causes and Manner of Production of some Diseases, as well as the Methods of curing them; and also had accounted for the Motions and Actions of several Parts of the Body, by the *Principles* of that *Physico-Mechanical Philosophy*. And some others had invented some

• The learned Bernouilli, Borelli, Bellini, Hermannus, Michaeliotti, Gulielmini, Mead, Freind, and some others.

some plausible fine *Hypotheses* and ingenious Speculations, accompanied with no less ingenious Reasonings, by which they had attempted to investigate both the Causes of Diseases, and various other Phænomena of *Nature*, and some other Effects and Appearances in the animal Oeconomy, by and agreeably to the Principles of the same Philosophy.

Such of their *Theories* as were founded upon Observations and Facts, and were every way agreeable and conformable to *Nature*, *Reason*, and *Truth*, he readily received into *his Theory of Physick*. But such, or such Parts of them as were only hypothetical, he judiciously rejected, as only serving to lead young Physicians from the Pursuit and Knowledge of Truth, into fine Speculations and imaginary Hypotheses, and hinder them from further improving medical Knowledge.

And in order to *form*, as well as *teach* others, a just and complete *true Theory of Physick*, and a rational, judicious, and successful Method of *Practice*; as also to assist HIS Memory in teaching this *Science*, in a full and perfect Manner, without omitting any thing that was necessary for his Auditors to know, HE judiciously composed those two excellent small Volumes, *his Institutiones Medicæ*, and *his Aphorismi de Cognoscendis et Curandis Morbis*; which he intended for

Texts

Texts or Heads to read his Lectures upon: Wherefore he wrote them in so very short and compendious a manner, that the full Extent of his Meaning, and what they truly comprehend, is but seldom fully and clearly understood by those that read them, and have not heard him explain them in his Lectures upon them: Therefore I would recommend reading and attentively comparing them with *his Lectures* on them, taken down in Short-hand, and published since his Death; those on the *Institutions*, or *Theory*, by the learned Dr. *Haller*; on the *Aphorisms*, or *Practice*, by the learned Baron *Van Swieten*, in 4to; and on the Diseases of the Nerves by Dr. *J. Van Eems* at *Leyden*.

These two small Volumes comprehend the most rational, perfect, and *true Theory of Physick*, and most judicious, complete, and most successful *Method of Practice* that has ever yet been published in any Language, or in any Age.

In *his Lectures* on the *Institutions*, or the *Theory of Physick*, he gave *his* Auditors an accurate and true Description of the Structure, Use, Action, and Office of all the different Parts of the human Body; and explained to them how all their various Actions and Offices, and all the Functions of Life were performed, agreeably to the Laws of Circulation of the Fluids, the Actions of *Nature* in the animal Oeconomy, and the

Laws

Laws of Motion of Matter: And then explained and described how those Actions, Offices, and Uses of those various Parts, and their Functions of Life, were or might be impaired, retarded, too much increased, or diminished, or obstructed, in part, or totally, and so be destroyed; either by the Influence and Effects of the various Changes of the Air, and the different Seasons of the Year and the Weather; or by the Means of infectious and contagious Miasmata; by slow or more active Poisons, or by other Accidents, as Wounds, Contusions, and various other internal or external Causes.

He then explained and demonstrated how all those various Causes acted on the Body, agreeably to the *Laws of Motion*, and the Circulation of the Blood, so as to produce such a State in the Fluids and Solids, that all the different and peculiar Symptoms, which attended each of those different Diseases, must necessarily follow, according to the Laws of Motion, and Circulation of the Fluids.

He not only thus accurately described all the various Parts of the human Body, and their Uses, and the Diseases which affect each Part, but he referred his Audience to those *anatomical Authors*, who had the most accurately described and delineated each of those Parts of the Body; and also to those *learned Authors*, who had described the Diseases of those Parts most truly; and
shewed

shewed wherein they were right, and with great Modesty and Deference wherein they were mistaken, if any Author chanced to be so.

Thus *he* described all the Diseases which the human Body is subject to, with all their different *Causes*, and the Manner of their being produced, with each of their peculiar Symptoms, agreeably to the Laws of *Nature*, and her Manner of acting, as founded upon accurate Observations and Facts, (and not upon imaginary Hypotheses) but agreeably to *Reason*, *Nature*, and *Truth*. Thus *he* performed and finished those his admirable Course of *Lectures* on the *Theory of Medicine* in each Year.

And having thus given his Audience a true *Theory of Diseases*, with all their Symptoms, as they really appear, agreeable to *Nature* and *Fact*, so that they might certainly know them from each other; *he* proceeded in the same manner, in *his Lectures* on *his Aphorisms*, or the *Practice of Physick*; and from the same Fund of Knowledge which *He* had collected from all the Observations in the Works of *Hippocrates*, and all the other ancient and modern Physicians, down to Dr. *Sydenham's* and *his* own time, joined to his own accurate Observations: He composed *his Aphorisms*, and gave his *Lectures* upon them; in which *he* clearly described each Disease again, with all its peculiar

peculiar diagnostick, and pathognomonick Symptoms, and explained how each of them were produced, from their peculiar procatactic Causes, in that regular Order and Succession in which they come on, and succeed each other, and how they proceed throughout each different Disease; and carefully remarked and distinguished which of those Symptoms were good, and denoted the Recovery of the Patients, and which were bad, and portended their Death; and then explained and shewed ~~the~~ Reasons why they did so; first by demonstrating how those bad Symptoms tended either to increase the Inflammation, and the Viscidity and Immeability of the Fluids, and so to increase the Number of the Obstructions, and consequently the Violence of the Disease, and all its Symptoms; or how the morbid Matter and the Humours tended to the *vital Parts* (so called because their Action is immediately necessary to the Continuation of Life), either from too violent a Motion of, or from a Deficiency of the *Vis Vitæ* and Motion of the Fluids, whereby the Disease is rendered either more dangerous, or certainly mortal. And on the contrary, he shewed us why those good Symptoms portended the Recovery of the Sick, and explained how they tended to carry off the Disease, by shewing that the Violence of the Disease, or the Fever and
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its Symptoms, were neither too great and violent; nor yet *Nature* sunk too low, or too weak to carry on the Work of Concoction and Expulsion of the morbid Matter; and explained how *Nature* or the *Vis Vitæ* acted and proceeded, in effecting that salutiferous Work. And then shewed us how we should assist *Nature* to remove the Cause of the bad Symptoms; and explained to us how it was to be effected, when it was in the Power of the *Art*, and when it was not: He also shewed and explained how *Nature* tended, and endeavoured to carry the Disease and its Cause off, by some critical Evacuation; and that *Nature* indicated by such Symptoms to the Physician, how he should assist *her* to carry the morbid Matter and the Disease off, by that critical Evacuation which *she* indicated, whether by Sweat, Urine, Stool, or some other Excretion. Or if a *new epidemical Fever* appears, which proceeds from a different Cause, that produces different Symptoms, he advised us to endeavour to keep the Fever in a moderate State, neither too high nor too low, and carefully observe its Symptoms and Progress, its Declension, and by what critical Evacuation it is carried off, as Dr. Sydenham did, and advises others to do: By which Method we may observe what *Nature* does, or indicates to be done, and so learn of *her* how we should assist her

to carry off such a Fever, in that Manner which *she* does, when *she* acts in the most salutiferous Manner; and how to assist *her* when she fails to produce those good Effects.

Thus *he* shewed us how absolutely necessary it is for every Physician, to diligently observe and carefully watch the Motions and Indications of *Nature*, and to take great Care that we never obstruct, or in the least hinder, but always assist *her* to carry off the Disease and its Cause, by such Ways and Evacuations as she indicates, when and where it can be safely done.

And that we should thus *observe, follow,* and *assist Nature* in the Cure of all epidemical, sporadic, contagious, malignant, and pestilential Fevers, when and where she can be so assisted by the Art; and always to remember the *Scito, Tute, et Fucunde* of CELSUS, and come as near up to it as we possibly can. And when we find by the Height of the Fever, the Pain, the Strength, Fulness, and Hardness of the Pulse, and other Symptoms, that the Fever is too great and violent, for *Nature* to carry on the Work of Concoction and Expulsion of the morbid Matter regularly by a *Crisis*, how we should moderate the Fever, and its Symptoms, by Bleeding, or such Evacuations as she indicates, with cooling antiphlogistick Medicines and a suitable Diet.

And

And on the contrary, when we find that *Nature* is sunk too low, and the *Vis Vitæ* is too weak to carry on that salutiferous Work of Concoction and Expulsion of the morbid Matter, he shewed us when and how we should assist *her*, by giving gentle cardiac Medicines, and a more nourishing and strengthening cordial Diet; (very seldom by the Use of Vesicatories, and hot cordial Medicines, and these only when they are indicated, as they generally heat and inflame too much, and are too much in fashion, and too often used); so that the Fever may be raised to and kept in such a moderate Degree, as is suitable to assist *Nature* to concoct the morbid Matter, and then carry it and the Fever effectually off, by a perfect and complete critical Evacuation.

Thus *he* taught the Students under his Tuition the *medical Art*, and how to cure Diseases, agreeably to the Directions and Dictates of *Nature* and *Reason*, by carefully observing *Diseases* and *Nature*, and what *she* did, and *reasoning justly and truly* from thence, so as to discover and find a rational, judicious, and successful Method of curing them, agreeably to the Laws of *Nature* and *her* manner of acting, and not in, or after an *empirical Manner*.

He also gave us the first rational and *true Theory of inflammatory Diseases*, and the rational and right Method of curing them;

and first accurately distinguished and described the true Symptoms of all those Diseases which are solely and truly Inflammatory, and clearly distinguished them by their pathognomonic Symptoms, from those Diseases which are not Inflammatory; such as the true *inflammatory Quinsey, Rheumatism, Pleurisy, Peripneumony, a Paraphrenitis, Phrenitis, Nephritis, Hepatitis; an Inflammation of the Stomach, Intestines, Peritoneum, the Pelvis, the Spleen, the Mesentery*, or of any other Part of the Body; and also accurately described their good and bad Symptoms; and first taught us the true rational, judicious, and most successful Methods of treating and curing them.

It is well known that Bleeding had been prescribed and used in several of these Diseases, by most Physicians, almost in all Ages; (except by the enthusiastick *Chemists*, and their Followers,) and Dr. *Sydenham* had not only prescribed Bleeding more liberally, in some of those Diseases, than most of his Predecessors, or any of his Contemporaries did, but he also introduced the cooling Regimen, and thereby improved the Method of curing them. But the learned *Boerhaave* gave us not only a *true Theory*, and the rational true Knowledge of their Cause, Manner of Production, their Progress, Tendency, and Consequences, but the most rational and *true Methods* of treating and curing them,
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inducted from thence; but he also tells us how to distinguish them from other Diseases, which seize and affect the same Parts with Pain, &c. and appear otherwise like them, but are not truly inflammatory; (a Distinction which is too often neglected, even at this time); he also carefully distinguished all the good and bad Symptoms, which attend those different Diseases, and shewed how each of them should be treated; when we should bleed liberally, when more cautiously and sparingly, and at what times of the Disease, and what Symptoms truly indicated those Evacuations. And he also advised and used, a more liberal Use of antiphlogistick Medicines, and a cooling, diluting, attenuating Regimen; as well as relaxing antiphlogistick Fomentations, and other topical Applications, in those Diseases which were truly inflammatory; and gave us the most rational and judicious Reasons for *his* so doing, and so taught us a successful Method of treating and curing all those Diseases.

He not only made these Improvements in the Methods of treating and curing epidemical and inflammatory Diseases, but he formed and has given us the most *rational* and *true Theory* of all other *Diseases*, both acute and chronical; not founded upon Hypotheses, but upon accurate Observations made upon Diseases and their Sym-

toms, and upon *Nature* and her Actions; which he carried on and improved by just mechanical inductive Reasoning, always agreeable to the Motions and Actions of *Nature*, and the *Laws* of the *Circulation of our Fluids*, and the *Laws of Motion of Matter*; and from thence, and conformably to that *Theory*, by the same Method of true mechanical inductive Reasoning, always conformable to the Motions, Actions, and Indications of *Nature*, he formed the most judicious, rational, and just, as well as the most successful Methods of treating and curing all those Diseases, which has ever yet appeared: The Truth of which *Theory* and *Practice* he always demonstrated by clear Reasons, and confirmed them by several accurate Observations, which he had made himself upon each of those Diseases, as well as by the no less accurate Observations which he took from the great *Hippocrates*, Dr. *Sydenham*, and several other learned Physicians; the Success of which *Practice* he generally further confirmed, by relating several acute and dangerous Cases, which came under his own Inspection and Care, and gave us *his* Reasons for his so prescribing and doing what he did, and gave us an Account of the Success of them; and in such Cases, as he saw and predicted, that though some Ease and present Relief might be given, yet the Disease was beyond
the

the Power of *Art*, and was incurable, and gave *his* Reasons why it was so, and usually foretold the manner, and generally the time of the Death of such a Patient; and also what State the Body would be found in, after Death; (and in those Bodies which were opened in the Hospital, as well as in several others, which he gave us an Account of in *his* Lectures) so the Bodies were found in that State which he had truly predicted, that they would be in after Death.

Thus this *learned Professor* and truly great *Physician*, with great Labour and Industry, and every way adequate *Abilities*, greatly improved medicinal Knowledge, and the *healing Art*, in all its Branches, both in its *Theory* and *Practice*, more than any other Physician ever did, from the time of *Hippocrates* to this Day; and probably as much as the short Life of one Man will admit of; and brought the Medical Art much nearer to its being a real *Science*, founded upon *scientific Principles*, in most of its Branches, than it ever was before. But as the Nature and Frame of the human Body is such, that it must at last undergo a State of Dissolution; and all Mankind must die; and that most Diseases may be so great and violent, that neither *Nature* nor the Assistance of *Art*, can either restore Health, or preserve Life any longer; therefore, when the Symptoms of any Disease shews it to be *extra*

Artis limites, and incurable, the Physician can do no more than predict the Death of the Patient: *Et ex præfagio sæpe vitetur Calumnia*, because as much Knowledge and Judgment is required to know that a Disease is incurable, as there is to know how to cure a Disease, that is curable by the Medical Art.

Altho' this very learned and truly great Physician has made so many Improvements in the Medical Science, yet so short is the Life of Man, and so subtile and mysterious are some of the Causes of Diseases, and the Nature of Things; and so difficult are some of them to be truly investigated, and clearly discovered, (tho' He detected many of them;) yet after all the Endeavours and Labours of so many great and eminent Physicians, we cannot assert that the Medical Science is yet arrived to the utmost State of Perfection; which accurate Observations, ingenious Experiments, and careful true inductive Reasoning, may possibly carry it to; Neither have Men, (even the greatest Genius's,) yet attained to the utmost Extent of Knowledge, that the human Mind is capable of arriving to, by those Means, either in this, or in any other Science; but that some further Discoveries, and Improvements may yet be made in any of them; therefore in the Medical Science, and probably both in its Theory and Practice, if we do

do but take the right Method of proceeding therein. And as the great *Lord Verulam*, and *Sir Isaac Newton*, have shewed us the right Way in Philosophy; and the great *Hippocrates*, *Harvey*, *Sanctorius*, *Sydenham*, and *Boerhaave*, in the Method of acquiring, and improving Medicinal Knowledge; let us therefore diligently pursue those Methods, since we see that all the great Discoveries, and Improvements, which have been made in the *Medical Art* in all past Ages, even from its first Rise to this Day, have all been made by those *Methods*: And let us as carefully avoid forming, or falling into Hypotheses, and reasoning from uncertain or imaginary *Data*, which in all Ages have, and ever will lead Men into Errors; and divert them from pursuing true Knowledge, and discovering Truth. And if we steadfastly and diligently pursue the Method of making careful Observations, and accurate Experiments; and carry them on, and rightly improve them, by just and true mechanical inductive Reasoning, always conformable to what *Nature* really, (not imaginarily) does, in the Body; it is not doubted, but that our Knowledge of the Causes, and the Methods of curing all Diseases, may be yet farther improved; and the *Medical Science* be brought to a State of greater Perfection, than it is yet arrived to; Let us therefore, for the Love of
Know-

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Knowledge and Truth, endeavour to do
so.

S E C T. IV.

*General Remarks on the Improvements, and
the Hindrances of its Improvement.*

WE have in the preceding Part of this Inquiry, endeavoured in a short Manner, to inquire into the first Rise of the Medical Art; and to discover how it was improved, so as to bring to be, and establish it as an Art. And then, to discover by what Methods and Means it has been so improved, as to bring Medical Knowledge to that State, which it is now arrived to. Also to inquire into, and discover all such Methods as at any time have hindered its Improvement, or any way prevented the Progress of its improving; which I shall now endeavour to place before the Reader, in a short and more clear connected Light, so that both those Methods may be clearly seen, and that young Physicians may hereafter carefully avoid falling into any of those Methods which have any way hindered the Improvement of Medicinal Knowledge; and more diligently pursue those Methods by which it has been, and may be still farther improved; so that the Medical Science
may

may be yet brought to a State of greater Perfection.

It appears, from what we have collected from those short Hints in History, which have been handed down to us, that as the People of the first Ages lived in a very temperate manner, they most probably had very few Diseases; and when, by any Accident, they had any, they were more simple, and mild, wherefore *Nature* more easily carried them off; or if they, or any Hurts which they got, gave them any Pain, they applied such Plants, or other Things, as Reason dictated to them, till they found such Things as relieved or removed their Pain; and when they found any Thing that cured their Disease, they carefully preserved the Remembrance of it, and communicated it to others; and so what little Knowledge they so obtained, was thus preserved and communicated down to others by Tradition.

But as Men multiplied, various new Inventions were found out, by their Ingenuity and Experience; and among the rest that of making Wine, with various other Inventions of Pleasure, Ease, and Luxury: And as these were multiplied, Diseases were increased, and multiplied also; and consequently new Remedies were sought for, especially when those which they had before failed in curing those new Diseases,

till

till they found out such as cured or relieved them; and when they chanced to find any such, the Knowledge of them was preserved and communicated in the same manner. And thus medical Knowledge was first obtained, preserved, and propagated, and was very slowly improved by Experience only, as they were in those Ages intirely Strangers to, and unacquainted with, the Structure of the human Body, and no less so with the Causes and the Manner of the Production of Diseases, till further Observations gave them some little Light therein; and as they were unacquainted with these, they were as ignorant how to remove those Causes, and so cure their Diseases, any other way, than as simple Experience, (without any Reasoning from the Causes) taught them; so that all their Practice in those Ages, was only and truly *Empirical*.

And this *empirical Method of Practice* was continued, and very slowly improved, down to the time of the great *Hippocrates*; and even to this time, by some who call and may think themselves great Physicians. But that *Father and Prince of Physicians Hippocrates*, clearly saw the Weakness, Insufficiency, and Danger of that *empirical Practice*; therefore *he* first began the Method of carefully observing the Rise, Progress, Height, Declension, and the Manner by which Diseases were carried off at last, and no less accurately

rately observed all the Symptoms which attended them, in each of those Times, or Stations of the Disease. And at the same time as carefully observed the Changes of the Air, Weather, and the Seasons, and the Alterations that were made, or produced by them, in the then reigning epidemical Diseases; as well as what other Diseases came with, or soon after followed those Changes of the Weather; and what Effects they both had upon the human Body.

And by thus carefully observing all these, and the Effects which they produced, and reasoning carefully and truly from them, *he* was enabled to discover their procatactic and immediate Causes, although the Circulation of the Blood was not then known, which shews the prodigious great Penetration *he* had. Then by carefully observing the Motions, Attempts, and Endeavours of *Nature* to carry the Disease off, and by what *critical Evacuations* she did at the last both carry the Disease, and its Cause, intirely off, and so restore the Sick to Health again.

Thus by carefully observing all these, *he* both learned to know Diseases, and their Causes, how they came on, and how *Nature* cured and carried them off: And it was by a just Method of inductive Reasoning, that *he* both discovered their different Causes, and how *he* should assist *Nature* to
carry

carry them off, and cure them. And it was thus, and from hence that he learned to know that it was the Duty of the Physician always to observe and assist *Nature* to carry off Diseases by such Ways and Evacuations as *she* indicated, when it can be effected. Thus *he* wisely formed a rational and true *Theory*, and a right and judicious Method of *Practice*, founded upon and conformable to *Nature*, by just and accurate *Observations* and true *Reasoning*.

It is well known, that there are some Physicians who are pleased to say that *Hippocrates* had no *Theory*; (but it is probable, that the best Reasons they can give for their saying so, is, that they have not been instructed how to reason truly in the *Theory*, or that they have none;) but it is very evident that *he* had a *Theory*, and that it was *Κάτα Φυσίν Θεωρίων*, a *Theory according to Nature*, which was inducted by Reasoning truly; as is too evident to be denied, both from *his* general Method of Practice, and from the various true Inductions and Consequences which *he* has so justly and judiciously drawn, from the many accurate Observations which *he* made on the Air, Weather, and the Seasons, and upon Diseases, and the Actions of *Nature*, as before observed; although *he* has not left us so many Instances, or such frequent Specimens of his Method of Reasoning, in *his Works*, as some other Authors have;

have ; yet it is no less evident, that *he* had a *Theory*, and did *reason*, and that *his* Method of Reasoning was *just*, and *his* *Theory* *true*, and conformable to *Nature* and *Facts*; as it clearly appears from all those true Inductions which *he* drew from his Observations, and has left us in *his* *Aphorisms*, *Coacæ Prænotiones*, *De Morbis Epidemicis*, *De Victus Ratione*, and in several other Places of *his* *Works*; which remain as so many standing *Truths* to this Day, and so many permanent Evidences of *his* *Reasoning*, because they could not be so deduced, without such Reasoning, and that Reasoning is *Theory*.

And this *Theory* and *Practice* of HIPPOCRATES was followed by most of the *Greek Physicians*, who succeeded him in *Greece* for several Ages after; and was introduced into the Practice at *Rome* about 500 Years after *his* Death, if not sooner, by that judicious and elegant *Roman Physician* CELSUS, who pursued the same rational *Theory* and *Practice* there: And if all Physicians since had diligently pursued the same through all Ages, and in all Nations, to this Time, no doubt but medical Knowledge would have been much more improved than it has been; and their departing from those Methods, and falling into that of forming Hypotheses, has been the greatest Detriment and Hindrance to its Improvement ever since; for

it

it was by those Methods of making such accurate Observations, and Reasoning truly from them, that that great *Father of Physick* acquired all that great Fund of Knowledge, which *he* possessed, and by which *he* so much improved the *medical Art*, as we have seen before.

But such is the restless Disposition of the human Mind, which is seldom satisfied with the Knowledge of Truth, and what is the best for us; so that the Love of Novelty has put many ingenious and learned Men upon inventing *new Systems of Philosophy*, in different Ages; and when these Systems once became fashionable, they have been generally introduced into the *Sciences*, and have put Men of Learning and Genius upon forming Hypotheses, conformable to the Principles of that Philosophy, whether true or false, which was then in vogue, and introducing them into the *Sciences*, especially into the *medical Science*. Hence it is, that we find that most of the different Systems of Philosophy, which have been invented in different Ages in *Greece*, have been introduced into the *medical Art*, and various fine Hypotheses have been formed, agreeable to the Principles of the Philosophy which happened to be then in fashion: And hence it is, that we meet with such a Variety of Opinions and Sects, among the ancient *Greek Physicians*, as they formed
their

their Hypotheses, and reasoned from them, and imaginary *Data*, which had no Foundation on *Nature*; their Inductions and Conclusions were not conformable to *her* manner of acting; and as they had no Existence but in their own Imaginations, they led them into various Errors and Mistakes, and have been in all Ages the greatest Hinderance to the Improvement of medical Knowledge; not only as they lead Men into Errors, but as they divert the Thoughts of Physicians from pursuing those Methods by which all medicinal Knowledge has been obtained, and by which it only can be further truly improved, and brought to a State of greater Perfection.

The *Hippocratick Theory and Practice* was generally followed, till the noted *Aesclepiades* first set upon forming imaginary Hypotheses, according to the Principles of the *Epicurean* or *Corpuscularean Philosophy*, which was then much in fashion at *Rome*; but as his Hypotheses, and his philosophical Method of Reasoning, were neither consistent with the Operations of *Nature*, nor with the Doctrine and Method of Practice of *Hippocrates*, which was still in great Esteem with the more Judicious, his Theory and all its Hypotheses, as well as his Method of Practice, were generally rejected by them, and were so short lived, that they died with himself.

Soon after him, his Scholar *Themison* set up for a Reformer, or rather an Innovator, in the medical Art; and not only rejected his Master's hypothetical System, but all philosophical Reasoning, and all *Theory* whatever, (and we may add almost all Reason also) which he carried further than the Empiricks did, as they admitted of a little Reasoning, in regard to the Similitude of Cases, as also did most of the *Methodists*, though they received him and his Writings into their *Sect*; but as his System, if it may be called one, or his Method, neither did, nor could make any Improvements in medical Knowledge, it was also rejected by all but the *Methodists*.

And not long after him came that fine subtle Genius *Galen*, who being a Man of great Learning, and fine Parts, and a great Admirer of *Aristotle* and his subtle *Peripatetic Philosophy*, he introduced it into his new *Theory of Physick* which he invented; and he formed several fine plausible Hypotheses and pleasing Speculations, which he accompanied with such subtle Reasonings, agreeable to the Principles of that Philosophy, that they carried such an Air, and an Appearance of Truth with them, that they were generally received by the Learned of that Age, and during many Centuries after, as really being true. So that the *Philosophy of Aristotle*, and *Galen's Theory*
of

of *Physick*, built upon its Principles, were the only *Philosophy* and *Theory* in fashion for several Ages after. However, there were some Physicians, who had so much Penetration as to see the Truth of the *Hippocratick* Doctrine, and the Rectitude of his *Practice*; therefore were too judicious to be led by the subtle Reasoning and plausible Hypotheses of *Galen*; they therefore still adhered to, and followed the former, of which number we must reckon *Aretæus Cappadox* and *Celsus*. And *Galen* himself was a Man of too great Penetration not to see it also; therefore in his *Practice* he generally followed the *Hippocratick* Method; but was so much in Love with the *Philosophy* of *Aristotle*, that he not only endeavoured to explain many Passages in the Writings of *Hippocrates*, according to, and by the Assistance of the Principles of that Philosophy, by which means he sometimes explained them quite away, into an unintelligible Mist; but he also formed his own *Theory of Physick* intirely conformable to them; therefore he was obliged to support it, by his minute Divisions of his Temperaments, Elements, cardinal Qualities, and occult Faculties, and his subtle Divisions of the Humours of the Body, and to support the whole by his no less subtle Reasoning, conformable to the Principles of that Philosophy, which was then so

much in fashion; and thereby made it appear so much like Truth, that his *Theory* was afterwards universally received, and adhered to, as being true, by Physicians in general, not only at *Rome*, and in *Italy*, but all over *Europe*, where they had any Learning, as we shall see afterwards: And they were carried about 500 Years after into *Arabia* and the *East*, where they were held in such great Esteem, that the *Philosophy of Aristotle*, and the *Theory of Physick of Galen*, were the only Philosophy and Theory that were admitted as true, both in the *East* and in *Europe*, where any Sparks of Learning yet remained, which indeed was very little any where, as it had been so suppressed and banished into the *East* by the *Popes*, and their *Priests* and *Monks*; till at last these had little more Learning than the Laity, who had, or were allowed none, but what little they got privately, or by Stealth.

And this State of illiterate Ignorance continued all over *Europe*, whilst Learning revived and flourished under the *Mohamedan Chalifs* in the *East*, during the Space of 5 or 600 Years; and then it began to revive a little at *Salernum*, and in *Spain*, among the *Arabians* there, as we have observed in the first Part of this Treatise.

As the *Arabians* received their *Philosophy* from *Aristotle*, and their *Theory of Physick* from

from *Galen*, so they continued to adhere to and follow them in both, without making any Improvements, or new Discoveries in either of them. But although they made no Improvements in the *Theory of Medicine*, yet they made several great Improvements both in the *Practice*, and in the *Materia Medica*. It was the *Arabian Physicians* that gave us the first Account and Description of the *Small-pox* and the *Measles*, their different Sorts, their good and bad Symptoms, and the Method of treating and curing them; and of the *Nervus (vel Vena) Medinensis*, now called the *Guinea-Worm*, and its Cure; and a true Account and Description of the true *Arabian Leprosy*, and the two Kinds of it; as also of that Kind of *Leprosy*, now called the *Yaws*, which is a very different Disease from both the other, and most probably is the *Leprosy* of the *Jews*; with their Method of curing it.

It is true most of the *Greek Physicians* have mentioned the true *Lepra Arabum*, and *Aretæus Cappadox* ^a has described it in a perfect and picturesque manner, as he does all the Diseases that he treats on; and *Ætius* describes it very well ^b, as he lived at *Amida* in *Mesopotamia*, where it is much more frequent than it is in *Greece*: All the *Greek Physicians* call the true *Lepra Ara-*
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bum,

^a Aretæi Cap. Oper. Cap. 13. p. 67. et p. 134. ^b Ætii Tetrabiblos, L. 13.

bum, by some mistake, the *Ἐλεφαντία*, or *Ἐλεφαντίασις*; but the true *Elephantiasis* of the *Arabians* is a very different Disease, both in its Cause, and the Manner of its Coming, its Appearance, and in all Respects; and is very well described by *Rhazis* * and *Avicenna* ^d.

The *Arabian Physicians* have not only given us a true Account of these new Diseases, which were all unknown to the *Greeks*, except the *Lepra Arabum*, called by them the *Elephantiasis*, as they probably did but very seldom see it, and as probably never had seen the true *Elephantiasis* of the *Arabians*: and they also gave us the Method of treating and curing them, which was a considerable great Improvement in the medical Art: And they likewise greatly improved the *Materia Medica*, as they first discovered and introduced the Use of the *Euoproticks*, and all the cooling antiphlogistick Purgatives; and also Muske, Camphor, and most of the best Aromaticks; as well as some of the best antiphlogistick Medicines, and the Use of the cooling Regimen, which are of the greatest Service in the Cure of most inflammatory Diseases, especially Fevers with that Diathesis. They also moderated, and considerably lessened the

* *Rhazis Continens*, Tr. 2. C. 26.
Medicin. L. 3. Fen. 21. Tr. 1. p. 967. ed Venet. apud Junta.

^d *Avicen. Canon.*

the Doses of most of the *Drastick* and stronger *Catharticks*, prescribed by the *Greek Physicians*, often in very large Doses, much larger than we dare, or can give with Safety now, in many Cases; but the *Arabians* reduced them to safe and proper Doses.

These are all great Improvements in the medical Art; but what is still greater, the *Arabians* first introduced the Chemical Art into that of the Medical; and first invented the Art of distilling Waters, and Spirits, Oils, and *subliming Mercury*, and making some other Preparations from it; though they chiefly used it, and all the Preparations from it, externally, in Ointments or Lotions. They first invented the *Alembeck*, and several other chemical Vessels and Instruments, from whence the succeeding *Chemists* have taken theirs, although they have greatly improved them since, as well as invented a great Variety of *Chemical Preparations*, and have no less improved their medicinal Uses, and the manner of administering them; yet the *Arabians* first taught us the Method of preparing them, and several other chemical Medicines, not only from those *Semi-metals*, *Mercury*, and *Antimony*, but from several Metals, Parts of Animals, and various Vegetables, whereby the *Materia Medica* was so much improved and augmented, that they now make the better half of it; and many of them, by

the Improvements which the modern Chemists have made in their manner of preparing them, and the Physicians in applying them, are found to be the most efficacious Medecines that we now have, in curing several of the most obstinate Diseases. So that although the *Arabians* did not make any new Discoveries in *Anatomy*, or Improvements in the *Theory of Medicine*, but chiefly followed and adhered to the *Anatomy and Theory of Galen*, as all the *European Physicians* then did, and for several hundred Years after; yet they not only made all these great Improvements in the *Practice*, but in Surgery also: They have first clearly described a *Spina Ventosa*; and are the first that either mention or practised cutting for the Stone in the *Kidneys*; an Operation, which both *Serapion*^a and *Avicenna*^b say was practised in their Country, by some Persons, though both of them looked on it as a dangerous Operation, as it certainly is; so that few Surgeons have attempted it since them; the only two that we read of since, was one in *France*, mentioned by *Mezeray*^c, and Consul *Hobson*^d, who was cut by the eminent *Dominico Marchetti*, a Physician at *Padua*; and both of them lived and enjoyed Health several Years after.

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^a Serap. Tract. 4. C. 22.
Ed. apud Junt. Venet.

^b Canon. Med. p. 361.

^c Hist. of France, p.

^d Philos. Transact. Abridg. Vol. 3. p. 188.

Whatever some Persons may think or say of the *Arabians*, they more zealously cultivated, encouraged, and really had more Learning amongst them at that time, than was in any other Nation; for it was greatly declined in *Greece*, and the *Grecian* Empire, and almost entirely extinguished in *Italy*, and the other Parts of *Europe*, by Superstition and Priest-craft, as before observed^e; so that the *Arabians* may be said to have been the Preservers of Learning, when it was overwhelmed by that Deluge of Ignorance in *Europe*; and were the first Introducers of it into *Europe* again: And they had many learned Men amongst them; *Mohamed Rbaxis* was a learned Physician, and well versed in several Sciences; he wrote 12 Books in Chemistry^f, and several in Physick and Philosophy; and is said by Judges to have written them in pure *Arabick*; and *Avicenna* was a learned Man, and a great Philosopher, and one of a very subtle Genius, not inferior to *Galen*, in either, and is said to have written as pure and elegant *Arabick*, as *Cicero* did *Latin*, or *Aristotle* and *Demosthenes* *Greek*: But the low barbarous *Latin*, in which we now have them, as they were translated by the *European* Physicians afterwards, in the Ages of Ignorance, renders them disagreeable to the polite Scholar, and may be one, if not the

^e See before, p. 155. ^f Abul. Pharag. Hist. Dyn. p. 191.

the chief Reason, why they are so little esteemed and read; or rather, so much contemned. After the *Arabians* had conquered a great Part of *Spain*, and were peaceably settled there, in the 8th Century^s, till it was retaken by the *Franks* in the 13th Century^h; they founded Schools, and brought *Learning* and the *Sciences* with them from *Arabia*, *Ægypt*, and the *East*, and taught them there, especially *Philosophy*, *Physick*, and the *Chemical Art*, in those Schools. Soon after which, *Learning* began to spread a little into some other Parts of *Europe*, and a School was established at *Salernum* in *Italy*, where the *Sciences* were intended to be taught, especially *Physick*; but the Progress of *Learning* was very slow, although *Constantine Africanus*, who was born at *Carthage*, (and some others) travelled into the *East*, where he learned the *Arabian* and the other *Oriental Languages*, and the *Sciences*, especially *Physick*, and brought them to *Salernum*, where he taught the last: But notwithstanding this, and the great Encouragement that *Learning* had there from *Robert Duke of Normandy*, and the noble Family of the *De Medicis, Dukes of Tuscany*, it made but a very slow Progress, as it was so much discouraged by the *Popes*, and hindered by the Arts and Contrivances of the *Monks*, who had ingrossed the

^s Idem, p. 129.

^h Idem, p. 278.

the *Practice of Physick* to themselves, for the Sake of the Lucre of it; though most of them were very ignorant in that Art, and very illiterate, as well as the Laity, whom they endeavoured to keep so; and so they continued several Ages after, till the *Turks* took *Constantinople*, in the Year 1453, when the *Greeks* fled into *Italy*, and brought the Works of the *ancient Greek Physicians* and *Philosophers* with them, as before-mentioned¹; when Learning began to revive a little, though it was a considerable time after this, before it made any material Progress, or Figure in *Europe*. But the useful and ingenious Art of *Printing* being found out a few Years after, viz. about 1466, Books were more easily obtained; and as many useful Books were soon after that printed and published, and Men learned to read, which soon opened their Eyes, and they saw the State of Ignorance which they had been kept in, and how they had been imposed on by the *Monks* and *Clergy*, this brought on the *Reformation*, and Men saw they had a Right to think for themselves, as rational Beings; and in the sixteenth and seventeenth Centuries began to do so: This soon put them upon inquiring after *Truth*, not only in *Religion*, but in the *Sciences* also; and particularly into the *medical Science*, and its several

¹ See p. 170, before.

several Branches, *Anatomy, Chemistry, and Botany*; and great Improvements were made in them all. And the great *Lord Verulam*, having detected the Errors and Fallacy of the Principles of the *Aristotelian Philosophy*, and shewn Men the Way how to discover and know Truth, by the Means of *Observation, Experiments, and true inductive Reasoning*; and as *Galen's Theory of Physick*, which was founded upon the Principles of that Philosophy, was so much in vogue, that it had attached and enslaved the Minds of *Physicians*, almost as much as the *Bulls and Edicts* of the *Popes* had the Minds of other Men; and as those Principles were discovered to be erroneous, it put the more ingenious and learned Physicians upon inquiring into the Truth of that *Theory*, and discovering its imaginary Hypotheses and Errors, and they rejected them as such: And this put them upon making Observations and Experiments, as *Lord Verulam* had advised; and by that means the ingenious Dr. *Harvey* discovered the *Circulation of the Blood*; *Sanctorius* the *Insensible Perspiration*; *Eustachius* and *Vesalius*, the *Structure of the human Body*; and several other eminent Physicians, and able Anatomists, the Structure, Use, and Office of the various Parts of it. This also put several ingenious and learned Chemists upon making various *Experiments and Observations*, by which they greatly

greatly improved both the *Chemical* and the *Medical Art*, and many very useful, and several of the most efficacious Medicines that we now have, were thereby discovered; which when they came into the Hands of judicious and able Physicians, their Uses were greatly improved, infomuch that they then became, and now are, the best and most efficacious Medicines that we have, in the Cure of some of the most obstinate Diseases, which most of the Galenical Medicines were found to be ineffectual in curing; as the *Lues Venerea*, which was then a new Disease; as also some others, which they effectually cured. And if the chemical Physicians had done this, without introducing their pretended, but absurd chemical and hypothetical *Theory*, (by which some of them were for performing the same Operations in the human Body, as they did by Fire in their chemical Vessels; and others by their Alkali's or Acids) and their fiery hot Medicines, and hot Regimen, which they introduced into the Practice of Physick, which doubtless was injurious or destructive to many, they would have done the greatest Service to Mankind; and as it was, their Discoveries were greatly useful and beneficial, as the more judicious Physicians soon saw the Prejudice of their hot Regimen, and both it, and the fine philosophical and hypothetical *Theory* of
Galen

Galen were rejected; and soon after, both of them were entirely exploded by that honest, able, and judicious Physician Dr. *Thomas Sydenham*, who introduced the *Hippocratick* Doctrine, and a cooling Regimen, instead of them, to the great Benefit of Mankind.

The truly great *Lord Verulam*, having discovered the Errors and Insufficiency of all the Systems of Philosophy, which were discovered before *his* time, and invented a sure Method of discovering the Principles of a true Philosophy, and laid a certain Foundation to build that Philosophy upon, *viz.* accurate *Observations*, judicious *Experiments*, and true *inductive Reasoning*, tho' he had not time to discover the Principles, nor to form the System of that Philosophy; but *Sir Isaac Newton* did, by those very means, discover that true System of *Philosophy* some Years after. And it was by the same means that the Circulation of the Blood, insensible Perspiration, and all the other great anatomical Discoveries were made; all which gave such great new Lights into the animal Oeconomy, when they were properly applied, as greatly improved medical Knowledge every way.

Whilst the Learned were in Pursuit of discovering medical Knowledge by these Means, in various Parts of *Europe*; for in these two Centuries Learning was much encouraged

encouraged by several Princes, and greatly improved by several learned Men, and some who had a more sprightly Genius began to form Hypotheses: But about 50 Years^{*} after the Discovery of the Circulation of the Blood, and the insensible Perspiration, the eminent Dr. *Sydenham* lived. But although he was very well acquainted with the Circulation of the Blood, and the several Secretions of the Fluids, and all the other anatomical Discoveries that were then known, yet he seems not to have seen the Works of *Sanctorius*, or to have known the *insensible Perspiration*, as he never mentions it, though he often mentions Sweating; although both *Hippocrates* and *Galen* had taken notice of it so long before, as already observed; but it is most probable, that neither *they*, nor *he*, could suppose that its Quantity was near so great as *Sanctorius* found it really to be.

This true *Hippocratick Physician* clearly saw the great Mistakes and Errors which the philosophical Hypotheses of *Galen* had led Physicians into, for the Space of 1400 Years; and the Impropriety and great Prejudices of the *hot Regimen* of the *Chemists*, and we may add of the *Galenists* also; and as clearly saw the Reasonableness and Judiciousness of the *Hippocratick Doctrine* and Method.

^{*} Dr. Sydenham was born two Years before *Sanctorius* died, and three Years before Dr. Harvey died.

Method of observing what Changes happen in the Air and Seasons, and observing the manner of the Accession of Diseases, and their Progress, Symptoms, and Effects, in order to truly know them, and investigate their Causes, and the manner of their being produced; and then by observing what *Nature* does, and indicates to be done, and by what Ways she carries those Diseases off, in order to investigate the right Methods of treating and curing them. He therefore wisely rejected all Hypotheses out of *his Theory*, and exploded the false Reasonings and *hot Regimen* of both the *Chemists* and *Galenists* out of his Practice, and judiciously pursued the Methods of observing the *Seasons, Diseases, and Nature*, as *Hippocrates* did, above two thousand Years before him: And by that Method, made more useful Discoveries and Improvements in the *Practice of Physick*, and the Method of treating and curing Diseases, than any Physician ever did, from the time of *Hippocrates* till then, as appears from what is said before; but may more satisfactorily and advantageously appear to the young Physician, from an attentive Perusal of all his Works.

It has been said by some Physicians, that neither *Hippocrates* nor *Sydenham* had any *Theory*; but we have made it appear that *Hippocrates* had, and it will appear as clearly that Dr. *Sydenham* had a *Theory* also; and that

that they were both *true Theories*: Whatever may induce them to say so, I know not, unless it be because he formed no imaginary Hypotheses, as too many have done since; but that he had a *Theory*, and a *true Theory* too, is certain; though he neither reasoned mathematically, nor mechanically, according to the *Newtonian Principles*, which were then neither discovered, nor known: Neither has he always favoured us with his Method of Reasoning, in all the Cases which he relates, nor in all the Diseases which he describes; yet he has left us so much of it, in several Places, especially when he investigates the Causes, both of the epidemical and some other Diseases, as makes it evident that he did reason both from the Observations which he had made upon the Air, the Weather, and on Diseases, their Progress, Symptoms, and the manner of their being produced; and by so Reasoning he investigated and discovered the Causes of those Diseases: And then by observing what *Nature* did, and indicated to him to do, and how *she* carried off Diseases, he did by Reasoning truly discover how he should assist *Nature* to carry off and cure those Diseases. It was by thus observing, and by just inductive Reasoning, that he both investigated the Causes, and discovered the right Method of treating and curing Diseases; and it was

by the same Methods that he discovered the Errors, and Prejudice of the hot Regimen of the *Chemists* and *Galenists*; and by the same Method of Reasoning he discovered the Use and Advantage of a cool Regimen, in the Small-pox, Measles, and in all inflammatory Fevers. By thus observing and reasoning, he discovered which Diseases were Sporadick, which Endemial, Epidemical, or Malignant and Contagious; and by thus Reasoning, he drew all those judicious Remarks and Cautions which he has left us in his Works, which are found to be no less true, than those left us by *Hippocrates* are, to this Day.

And thus investigating the Causes, and discovering the right Method of treating and curing Diseases by Observation, and just inductive Reasoning, is *Theory*, and is theorizing according to *Nature*, *Reason*, and *Truth*, and is a *true Theory*. It is true, he met with great Opposition, and some ungenerous Ill-treatment; from some thro' Self-interest, Fear, and Covetousness; from others through Pride, Avarice, and Ignorance; although he deserved the greatest Rewards and Honours, and they the contrary; they got the Money, and the Name and Fame, for the short Time of Life, which died with them; he the greatest *Name* and *Fame* some Years after his Death, which will continue through all future Ages,
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in return for the great Service which he has done to all Mankind : And thus it has happened to many great and eminent Men, who have made the greatest Discoveries, and Improvements for the Good of Mankind, tho' they have only had the Satisfaction of having made them, as he had, for the Good of Mankind.

Some Years after those great Discoveries were made by Dr. *Harvey*, *Sanctorius*, and the other eminent Anatomists, and that they were more generally known ; and the great Sir *Isaac Newton* had discovered the true *Laws of Motion of Matter*, and published his *philosophical Principles* ; all these gave such a great and new Light, as soon discovered a sure Foundation to build a *new and true Theory of Physick* upon ; and it was hoped that a *Theory of Physick*, as true as Sir *Isaac's Theory of Philosophy and Astronomy*, would be discovered and formed ; as the *Newtonian Philosophy*, and his Method of mathematical, geometrical, and mechanical Reasoning, were generally received, and introduced into all the *Sciences*, and especially into that of *Physick* ; though for different Reasons, and with different Views, by some Persons, because its Principles were *true*, and its Method of Reasoning *just* : Some others, who had only got a superficial smattering Knowledge of it, would introduce it into *Physick*, because it was fashion-

able and new. The first seeing what great Discoveries Sir *Isaac* had made in some of the other *Sciences*, which appeared to be no less mysterious, and difficult to be certainly known, by the Means of Experiments, and the Assistance of geometrical and mechanical Reasoning, were induced to believe, that not only the Action of all the external Causes, but all the Motions and Actions of *Nature* in the human Body, and all the Causes of Health, Life, and even the most subtile and hidden Causes of all Diseases, and the manner of their being produced, and consequently a certain Method of curing them, might be discovered, by the Penetration and Power of the human Mind, assisted by that philosophical Method of geometrical and mechanical Reasoning: But alas! when they attempted this, and endeavoured to introduce it into the *Practice of Physick*, they soon perceived the Poverty and Inability of the human Mind, and their Want of the Knowledge of certain *Data* to reason from; and, in process of time, found that those could be only obtained by accurate Observations and Experiments; and then saw the Difficulty of penetrating to, and truly knowing the subtile remote Causes of Diseases, and more so in discovering truly the Actions of *Nature*, and how they both act in producing and in curing Diseases, even with the Assistance of such Observations,

servations, and the Impossibility of doing it without them, by that Method of mechanical Reasoning; wherefore they were obliged to apply themselves to making Observations and Experiments, in order to discover those true *Data*, to reason from, and so gradually obtain that more certain Knowledge of the Causes of Diseases; and from thence, and by observing *Nature*, to obtain the surest Methods of curing them.

But others, who had more sprightly Geniuses, though not more Penetration, and Judgment, were unwilling to submit to that tedious and laborious Method of observing and investigating the Causes, and the Method of curing Diseases from thence, readily fell into the Method of forming imaginary *Data*, and plausible *Hypotheses*, and reasoning from them, as they are much more easily formed in the Library, than true *Data* are obtained, by the laborious Method of Observation and Experiments; and are more easily formed so as they have a mind to have them, rather than as they truly are in the Body.

And as Sir *Isaac* had made such great Discoveries, by that Method of philosophical Reasoning, they readily concluded that they could account for and explain, not only all the Causes of Diseases, but every Symptom, Motion, Action, and Effect produced in the human Body by *Nature*, by

the *Laws of Motion of Matter*, according to the Principles of that Philosophy; therefore they set upon forming fine imaginary Hypotheses, instead of finding certain and *true Data* to reason from, as *he* did; from whence they produced various fine Speculations, and imaginary plausible *Theories* of several Diseases, and introduced them into the *Theory of Physick* to its Prejudice. But notwithstanding that the *Principles* of the *Newtonian Philosophy* are *true*, and the Method of reasoning geometrically, mathematically, or mechanically, are as *true*, if carried on right; and is the surest Way to arrive at the Knowledge of *Truth*; if we reason from *true Data*, or self-evident *Facts*, our Reasoning and all our Inductions from them, will be *true* also. But if we reason from imaginary Hypotheses, and false *Data*, how truly soever we may reason, our Inductions and Conclusions, must be *false* also.

And as too many of the fine Hypotheses, and plausible *Theories*, which were invented and introduced into the *Theory of Medicine*, in the latter End of the last and the Beginning of this Century, were founded upon such imaginary *Data*, they have been found to be erroneous and false; it has brought some Discredit upon that Method of mechanical Reasoning and *Theorizing*, and has caused some Physicians to reject, and even to attempt to ridicule all *Theory in Physick*;
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but that is running into as great an Extreme on the other hand, and we may justly say of such, as the *Roman Poet* did, *Incidit in Scyllam qui vult vitare Charybdim*. For the true Cause was their Reasoning from imaginary *Hypotheses*, and *false Data*; whereas if they had as carefully observed Diseases, and what Nature did, and how she produced all her Effects, so as to have obtained *true Data*, and certain Principles to have reasoned from; and then had reasoned right, as some others did, no doubt but their *Theories* would have been *true*.

Some others seeing the Errors and Mistakes which some of these last learned *Theorists* made, concluded, that Medicinal Knowledge could only be obtained, and the Science improved, by making Observations on Diseases, and Experience in curing them; in the Method which the ancient *Empiricks* and the *Methodists* did, without any philosophical Enquiries into their Causes, or mechanical Reasonings upon them; and so revive Empiricism, or Methodism again.

In which case all those great Discoveries of *Dr. Harvey*, *Sanctorius*, and all the other great Anatomists, and those of the great *Newton*, would be of little or no Service, either in *Practice*, or in improving the *Theory or Practice of Physick*, since they cannot be improved any other way, but by just Reasoning.

But it is more reasonable to expect, that the *Medical Art* may be more improved, and brought to a State of greater Perfection, by judiciously joining the first to the last, viz. just Reasoning, to accurate Observations and Experience; as the learned *Boerhaave* has shewed us the Way, and by which *He* has so much improved both the *Theory* and the *Practice of Physick*. First, by carefully observing how all the Motions and Actions of the Body, and all the Functions of Life, are performed in a State of Health. Then, by diligently observing the Changes of the Air, Weather, and the Seasons of the Year, or other Accidents which happen before or at the Time of the Accession of Diseases; how those Changes affect the Body, what Secretions, and Functions of Life are the most affected by them, and in what manner. Secondly, by accurately observing Diseases, how they come on, with what Symptoms, how they proceed, increase, come to their Height, decline; and how, or by what *Crisis*, or critical Discharge they go off, or end in Death; what Motions, Actions or Functions of Life, are most affected, and how changed or altered in, and by the Disease. And, Thirdly, by as carefully attending to, and accurately observing *Nature*, and what she does, what Secretions or Excretions *she* increases, what Motions and Endeavours *she* makes to carry the Disease off,

off, and by what critical Evacuation *she* does at last carry the Disease and its Cause off; or how, and wherein *she* fails, in producing that salutiferous Effect. By thus carefully observing all these, we may discover the procatactic Causes of Diseases; and by reasoning carefully from them, agreeably to the *Laws of Motion of Matter*, and the *Laws of Fire*, and the *Laws of the Circulation of the Blood*, conformably to the Actions of *Nature*, we may discover, and truly know the Causes, and the Manner of the Production of Diseases. And by the same Method of mechanical inductive Reasoning from them, and observing what *Nature* indicates, and really does, and keeping our Reasoning conformable to them, we may both know when and how to assist *Nature*, agreeably to her Indications, to carry off the Disease, and its Cause, by giving such Medicines as will gently increase those Secretions, and Evacuations, by which *she* carries the Disease off at that Time. Thus we may improve *Medicinal Knowledge* both in the *Theory* and *Practice*, and thereby practise more successfully; if we do but take sufficient Care to avoid reasoning from imaginary Hypotheses and *false Data*, and keep our Reasoning conformably to *Nature*, and what *she* does. And, Lastly, endeavour always to confirm the Truth of our Reasoning, by observing that all our Inductions

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and Conclusions, are every way perfectly conformable to what *Nature* really does.

Inasmuch, as all the Changes and Effects which are produced by Diseases in the human Body, are produced by the Change of Matter and Motion, agreeably to the *Laws of Motion*, and the *Laws of Circulation*: Whether the first moving Cause proceeds from the Changes of the Air, Weather, and the Seasons; or from some epidemical, infectious, or contagious *Miasma*; or from any deleterious or poisonous Mater, taken into the Body; or from whatever Cause they may arise, after they are received and carried into the Blood, they must either stimulate and irritate the sensible nervous Solids, or coagulate and obstruct, or else attenuate and dissolve the Fluids; all the Changes which they produce in the Body, must be by some of these, and by the Motions, Actions, and Efforts of *Nature*, according to the *Laws of Motion of Matter*, and of *Fire*, and the *Laws of Circulation of the Fluids*, in order to cast the offending *morbid Matter* out of the Body: Whether it be by stimulating and irritating the Coats of the Stomach and Intestines, and thereby causing *Nature* to exert her contracting Force, and thereby endeavour to discharge the irritating Cause, or offending *morbid Matter*, upwards by Vomiting, or downwards by Stool: Or when the offending *morbid Matter* is carried

ried into the Blood, it stimulates the Heart and Arteries, and causes them to contract themselves more frequently and strongly, and thereby increases the Velocity and *Momentum* of the circulating Fluids, in order to cast that offending Matter out of the Body by some of the Excretions, when *she* can effect that; and when she cannot do it so soon, *she* then endeavours by that increased Motion of the Fluids, assisted by the penetrating, dividing, and repulsive Power of the Heat or *Fire*, which is collected by the increased Motion and Attrition of the circulating Fluids^a, to comminute and divide, or *concoct* the *morbid Matter*, so as to render its constituent Particles fit to pass through some of the excretory Vessels, and so be cast out of the Body by some critical Evacuation. In the Production of all which Actions and Effects, it evidently appears, that *Nature* is the principal or chief Agent; therefore the Physicians principal Attention and greatest Care should be diligently to watch, and carefully to observe *Nature* and her Motions and Actions, in all *Fevers* especially, as well as in most other Diseases.

Having thus briefly explained how *Nature* both produces and cures Diseases, especially *Fevers*, (which I shall explain more fully

^a See the Nature, Properties, and Laws of Motion of Fire, demonstrated by Experiments, Law. 1st.

fully after;) and inasmuch as *Nature* is the principal *Agent* in producing *Diseases*, and all their Symptoms and Effects, so it also appears that *she* is the chief *Agent* in carrying off, and curing *Diseases*; therefore *Nature* should be the principal Guide and chief Director, to every judicious Physician therein; (and really is so, to every able Physician, who knows how to *observe* and *reason* right upon *Diseases*, and will be so honest as to take sufficient time to do it.) As *she* always endeavours to preserve Life, and restore Health, by carrying off the offending *morbid Matter*, and the *Disease* with it, by a critical Evacuation of it, either by one Excretion or another. And he who diligently thus observes, will soon see that *Nature* thereby shews us the Way we should follow, and how and when we should assist *her*; for every judicious and honest Physician is, and should be, the Minister and Servant of *Nature*.

If this be true, as I think it is, and if we sincerely desire to increase Medicinal Knowledge, and improve the Method of curing *Diseases*, let us first diligently observe all the material Changes of the Air, Weather, and the Seasons of the Year; as they always have either more or less Influence on the human Body, and most commonly are the Cause of the Production of most epidemical *Diseases*. And also observe
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what epidemical Diseases either reigned before those Changes, or came with or followed them, and what Effects those Changes of the Air have upon the sound and well, as well as on the sick People; what Effects those Changes have upon the present or pre-reigning Diseases, and what Symptoms and Changes they produce in them; what Parts of the Body they most affect, and what Secretions are the most affected, and how they are affected, either by the Changes of the Air, or by the Diseases, with proper Allowances for the Difference of particular Constitutions; what Symptoms attend each Disease, how they and the Fever first come on, proceed, and increase; come to their Height, decline, come to their *Crisis*, and by what critical Evacuation it goes entirely off; what Symptoms attend each of those States of the Disease, which of them are pathognomonick, diagnostick, and which are anomalous or heterogeneous Symptoms; which are good and predict the Recovery, and which are bad and denote the Death of the Patient; so that we may not only certainly know what the Disease is, but that we may by just inductive mechanical Reasoning, from those Observations, Changes and Symptoms, investigate its true Cause, and its right Method of Cure, and know how and when to assist *Nature*, by further observing how *she* acts in

in all those Times and Changes, what *she* endeavours and attempts to do, or thereby indicates to us how and when we should assist *her* to do as *she* does, when *she* acts in the best manner, and produces the most salutiferous Effects; and that we may know, and be enabled to predict the Recovery, or the Death of the Patient. And if we also carefully observe, by what Secretion and Evacuation *Nature* has carried the same Fever, which is at that time reigning, off, in other Patients, and on what Day of the Disease; and observe whether *she* indicates and endeavours the carrying it off, in that Patient, by the same or by some other critical Evacuation, and assist *her* accordingly; and so learn of *Nature*, and from her Indications, both *when* and *how* we should assist *her*, when and where it can be safely done, agreeably to *her* Indications, by giving at that time such Medicines as are known to pass off by, and to increase those Secretions by which *Nature* has carried off that Disease in others, and indicates in that Patient, and so assist *her* to cast the *morbid Matter* and the Disease, entirely out of the Body by a critical Evacuation: As by giving a suitable Clyster, or a gentle Laxative, when it is by Stool; Diureticks, when by Urine; a moderate Sudorifick, which does neither too much heat, nor inflame, when by Sweat; (in which Case, a moderate small
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suitable Dose, or two, of the *Vinum Antimoniale* is probably the best;) or by giving suitable expectorating Pectorals, when the critical Discharge is by Expectoration, &c. If they are given a little before, or at the Time of the *Crisis*, and are continued for some Hours, or sometime a Day or two after it, as the Case may require; and as *Nature* wants that Assistance, which in weak Patients *she* often does. But, as it sometimes happens, that the *morbid Matter* has a Tendency to, or is cast upon the *Vital Parts*, by which it cannot be evacuated, as on the Brain, Heart, &c. which are so necessary to the Continuation of Life; this Method of Observation and just Reasoning teaches us how and when we should divert those Efforts of *Nature* from those Parts, and endeavour to turn them towards those by which the *Crisis* has, in other Patients in that Disease, been effectual, and the morbid Matter and the Disease have been entirely carried off by that critical Discharge, by making a Revulsion from the former or vital Parts to the other, either by Bleeding when the Commotion of the Blood and the Violence of the Fever are too great, or by some other Evacuation by or near to the other Part; which may be assisted by bathing the Feet, or the Application of Fomentations, Frictions, or Vesicatories, near to that Part by which the critical Discharge

has

has been usually made in that Fever at that time, in others; and by applying Repellents to the Head, or near the other Part, from which the Revulsion is intended to be made, where it can be done; so that we may assist *Nature* to carry off the *morbid Matter* and the Disease, in the most effectual manner, by a complete critical Evacuation: So likewise, when it happens either in the Beginning, or farther on in the Disease, or at any time before the coming on of the *Crisis*, that the Commotion of the Blood and the Heat and Violence of the *Fever* are too great to carry on the Commination, Concoction, and Expulsion of the *morbid Matter* regularly; the same Method of observing and reasoning, will instruct us how we should assist *Nature* to abate that Commotion, and moderate the Heat and Violence of the *Fever*, by Bleeding and a liberal Use of Antiphlogistic Medicines; and in some Cases, by some other cooling Evacuations also; (and not increase the Fever by stimulating, with applying *Blisters*, as is too often done;) but so as to render the Fever so moderate and regular, that *Nature* may carry on the salutiferous Work of Concoction and Expulsion of the *morbid Matter* effectually.

And, on the contrary, when the Constitution and Strength of the Patient is too weak, or where *Nature* is too languid, and the

the *Vis Vitæ* is sunk too low, to carry on the Work of Concoction and Expulsion of the *morbid Matter*, by a regular *Crisis*, we shall know how to assist *her* by gentle Cardiacs, Volatiles, Vesicatories, and a more cordial Diet, so as to keep the Fever moderate, and neither too high, nor let it sink too low to carry on that Work, but so as to carry on the Concoction of the morbid Matter, and carry off the Fever, by a complete critical Discharge of it. This Method is not only agreeable to Reason, but is conformable to *Nature* and what she really does, and to the Doctrine of *Hippocrates*, *Sydenham*, and *Boerhaave*.

And although neither *Hippocrates* nor *Sydenham* have favoured us with so full an Account of their *Theory*, or their Manner of Reasoning and Theorizing, as some others have done, yet it is evident from their Inductions, &c. that they had a *Theory* which was founded upon the Observation of *Diseases*, *Nature*, and *real Facts*; and was inducted from them by just Reasoning, and was a *true Theory*. But the learned *Boerhaave* has favoured us with a regular and rational true *Theory and Practice of Physick*, which he founded upon all the Observations and great Discoveries that were made by *Hippocrates*, and all the eminent Physicians who lived after him, to his own Time, as well as upon his own Observations upon

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Diseases,

Diseases, Nature and her Operations, by the means of *true inductive mechanical Reasoning*, agreeably to the Manner of the great *Lord Verulam*, and the *Philosophical Principles* of the great *Sir Isaac Newton*, and conformable to *Nature* and her Motions and Actions, and the Effects which she produces in the human Body; and may truly be said to be the *first* complete and *true Theory of Physick* the World has ever been favoured with.

From this *Theory*, as well as from all Observations and real Facts, it appears that *Nature* is the chief Agent both in producing Fevers and most other Diseases, from their procatarctick Causes, as well as the chief Agent in curing them: And if so, it is not necessary to use many Arguments, to convince every rational *Physician* of the Advantage, and the Necessity there is, for diligently observing all those Changes of the Air, and all the other remote Causes of Diseases, as well as carefully watching all the Motions, Actions, and Effects, which are produced by *Nature* in the Body, in order to know those Diseases, and truly investigate their Causes; and as diligently to observe, watch, and follow *Nature*, as his chief Guide, in his Method of treating and curing them, that he may be better enabled properly to assist *her*, agreeably to what *she* indicates and requires, and conformably to
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her Manner of acting ; being directed thereto by *Nature*, and a just Method of true *mechanical inductive Reasoning*, from those Observations, and the Actions of *Nature*, and always keeping his Reasoning and Inductions strictly conformable to what she really does.

I am sensible that this Method of observing *Diseases* and *Nature*, and strictly following and assisting *her*, may probably be objected to by some of the Faculty, especially by those who may think it too tedious and laborious a thing, so strictly to observe *Diseases* and *Nature*, and too servile a thing to follow and assist *Nature* in that manner ; especially if they are used to hurry over their Patients, and are in haste to grow rich, and cannot spare so much Time as some Cases may require, to strictly observe and follow *her* : And probably there may be some, who have not Penetration to observe and see, the Motions and Actions of *Nature* ; or have not been instructed sufficiently in this Method of *Observing* and *Reasoning*, though well versed in the other Branches of the Profession, or have not been taught a perfect and true *Theory*, or are not willing to submit to such a laborious Method of Practice : If these are not the Causes, it will be a difficult thing to find out the true Causes, why some Physicians object to having a *Theory of Physick*, as *Themison* did

at Rome, and the *Methodist Sect* after him: And there have been some *Themifons*, in all Ages since; and I wish we could say that we have none in our Days, who have affected to despise and ridicule all *Theory in Physick*; the Reasons for their so doing, we will not here inquire further into, because it cannot reflect any Honour or Credit to them.

It is but too true, that there have been many plausible *Hypotheses*, formed upon false Principles of Philosophy, and imaginary *Data*, both in *Galen's* time, and ever since; both before the Discovery, and Introduction of the *Newtonian Philosophy* into the *Theory of Physick*; but there have been several very plausible *Theories*, and some fine imaginary *Hypotheses*, invented since, which appeared very plausible, and seemingly rational; but as some of them were neither founded upon certain Observations, Nature, nor true Facts, but only on supposititious *Hypotheses*, and imaginary *Data*, which had no Existence but in the Imagination of their Authors, they have since been found to be false; for if the *Data*, from which we reason, are false, consequently all the Inductions, which we draw from them, must be false also, though our Reasoning be geometrically true: And it is from the Want of true *Data*, that so many of the fine *Hypotheses*, which have been invented and introduced into the *Theory*
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of *Medicine*, not only within this last Century past, but in all Ages, have proved to be erroneous and false. This probably may be one Reason why some *Physicians* rejected all *Theory in Physick*; but that is falling into one Error, in order to avoid another.

Since all Diseases, and all the Effects which they produce in the Body, must be produced by Matter and Motion, moving according to the *Laws of Motion*, is it not the most prudent and rational Method, to inquire what are the first moving Causes, in the Generation and Production of Diseases? Observation then informs us, that the various Changes of the Air, &c. produce some Diseases; that infectious Miasma, taken into the Air, and so into the Body, produce some others, and contagious Diseases by Contact, &c. Observation also informs us, those things which were floating in the Air, and are generated there, from various concurring Causes, which may be discovered by Observation, when they are taken into the Body, offend and irritate it in different Parts, and in different Degrees; that Irritation causes *Nature* to exert her *Vis Vitæ*, or Power of moving with Force, in order to cast that offending Matter out of the Body, in different Ways, as before-mentioned; and that increased Motion of the Solids and Fluids, produces the Heat and Fever, or the Disease, which continues

till the morbid Matter is cast out of the Body, or the Patient dies. These may be known by the means of Observation, as *Hippocrates* and *Sydenham* did, the one without either knowing the Circulation of the Blood, or the *Laws of Motion*, and the other without knowing the latter. But as the Blood circulates, according to *Hydraulic Laws*, and the *Laws of Motion*, its increased Motion, and the Symptoms and Effects produced thereby, may be more clearly accounted for, and explained in a much more satisfactory manner, by the Knowledge of the Circulation, and the *Laws of Motion of Matter* and of *Fire*, if they are properly applied.

In like manner, if all the Motions, Actions, and Effects produced by *Nature*, are attentively observed, we may know when, and how to assist *her*, as those two great Physicians did; but a Knowledge of the Circulation of the Blood, and the Structure of all the Parts of the Body, and the *Laws of Motion of Matter*, and of *Fire*, will enable us to account for the manner of the Production of those Effects, in a more clear and satisfactory manner; as also how and when we should assist *her*; likewise to know when we can, and when we cannot assist *her*: And the Knowledge of all these, do greatly assist us to investigate the Causes, and the manner of Production of all Diseases;

eases; and consequently, in the Method of treating and curing them, when their Causes are known; if we do but reason carefully and truly, and conformably to the Motions and Actions of *Nature* in the Body, as they always have a Tendency to carry the offending morbid Matter out of the Body, and the Disease off, and to restore Health.

And although we cannot always know *a priori*, what *Nature* can or will do, yet by diligently observing what *she* does, both in the Production of, and in the Cure of Diseases, we may learn to know what *she* does, and also to know when and how we may assist *her* to carry off and cure them.

And although NATURE does not act as an intelligent Being, yet as an active Principle, implanted in us by our GREAT CREATOR, which perceives when the Body is hurt or injured, so that *she* exerts her Power and Force, in order to remove the injuring Cause, and always acts in the best manner for the Preservation of Life, and the Restoration of Health. But we can only know this, by carefully observing what *she* does; so difficult is it to describe, and give a clear Definition of *Nature*, that the great *Hippocrates* wisely called her

The Aggregate of all Things that concur to perfect Health.

And we find, that both *Hippocrates*, *Sydenham*, and *Boerhaave*, and all other

eminent *Physicians* since, have always made *Nature* their Guide, and in all Cases followed and assisted *her*; and all other Physicians should do the same.

And as Reason is the supreme Faculty of the human Mind, and is the Rule by which all Men should govern and direct all their Actions; and if in the common Affairs of Life, certainly in the important one of the Preservation of Life, and Restoration of Health. And as we have no other Way to certainly know Diseases, and their Causes, and the manner of their being produced, but by carefully observing them, and those Causes which produce them, and by Reasoning from those Causes to their Effects; and then by observing what *Nature* does, and how she acts in the Cure of Diseases, and by Reasoning from those Causes and Effects, and the Actions of *Nature*, we may know how to assist *her* to cure Diseases: It is by this Method of observing, and true inductive mechanical Reasoning, that we can truly improve medicinal Knowledge, and the Methods of curing Diseases; and that Reasoning is *Theory*.

Wherefore we must conclude, that all that Affectation of despising *Theory* in the *medical Art*, must either arise from their not distinguishing those erroneous Theories, which are founded upon imaginary Hypotheses, or false Data, from those which are
founded

founded on Observation, Experience, Nature, and true Facts; or their neglecting to observe Diseases, and *Nature*, and what she indicates; or their not being instructed in the Method of Reasoning mechanically, and truly from such Observations on Diseases, their Causes, and from Nature: Or whatever the Cause may be, why those Gentlemen affect to neglect and despise the *Theory of Medicine*, if there can be any such in this Age; let them say what they please, they must form some Idea of the Disease, and its Symptoms, under their Cure, and form some Method of treating and curing it, and have some Reasons for their chusing one Method preferable to another, and for their doing so: So far as they do this, they have some Sort of a *Theory*, though it be a weak and imperfect one.

Therefore a *Theory*, which is founded upon *Observation*, *Nature*, and *true Facts*, and is carried on by true inductive mechanical Reasoning, will either lead us to the Knowledge of *Truth*, or instruct us how to make further Observations and Experiments, which will, by the same means, lead us to the Knowledge of it; and will not only be more satisfactory, but the Practice so formed will be more successful also. For if we have no better Reasons for prescribing, or giving such a Medicine in such a Fever, or other Disease, than our having it from such
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an Author, or such an eminent Physician's Prescription, though from a *Boerhaave*, or a *Mead*; unless we have the same Indications, Symptoms, and Reasons for our prescribing it, which they had; and therefore, without those Reasons, give that Medicine to all Patients, in that, or any other Fever, and at any time of the Fever, or whatever Symptoms attend: Such Practice, though we have seen it perchance succeed, is *Empirical*, in the most abject Sense of that Word, and is no better than having it from a good old Woman, or a *Quack*; and is, in plain Truth, empirical Practice. Since it is well known to every judicious and able Physician, who has a rational and *true Theory*, that *Fevers* differ as much from each other, as they differ from some other Diseases, and require as different Methods of Treatment; and that the same Fever, in the same Patient, requires a very different Method of Treatment, in one time of it, from what it does in another time of it; and that Method, which would be the means of recovering the Sick, in one time of the same Fever, would be very injurious, or fatal, in another time of that Fever; and more so in different Fevers; and that Method, and those Medicines which will recover and save the Life of the Patient, in an inflammatory Fever, would be destructive and fatal in a slow nervous Fever; and the

the Method and Medicines, which would recover the Patient in the latter, would be fatal in the former; and so in other Fevers, and other Diseases. And as Quacking is now so very much in fashion, what must we think of those Gentlemen of Sense and Education, who in other Concerns of Life reason well, and think and act prudently; (for as to the Vulgar it is to no Purpose to say any thing) yet where the important Concern of Life is at the Stake, give up their Sense and Reason, to the ignorant Pretensions of Men, who know not one Disease from another, much less their different Causes, or the different Times and Symptoms that attend them; and suffer themselves to be imposed upon by giving *a Pill or a Drop*, to cure all Diseases; or a Paper of Powder to cure all Fevers, or in any time of them; which if they are active Medicines, as most of the *antimonial Medicines* are, and are also very uncertain in their Operations, must frequently produce very bad, if not fatal Effects.

Since there cannot, in the Nature of Things, possibly be any one Medicine, how useful and efficacious soever it may be in some particular Cases, that can be proper and fit in all Cases, and in all *Fevers*, and much less in all Times of any Fever, no more than one Coat can be made to fit all Men; and the one is as absurd and impossible

possible as the other; and if any one does pretend they can, they must either want Judgment, or Honesty to acknowledge the contrary. I have no Prejudice against any particular Persons, nor any self-interested Views, but the Good of my Country, and of Mankind, in saying thus much on this Subject, but against Quacking and Quack-medicines.

And as Physicians may (not improperly) be said in some Cases to sit as Judges of Life and Death, where a right Method of Practice may save, or a wrong Method destroy the Life of the Patient; it is an important and solemn Act, wherein nothing less than a rational, just, and true *Theory of Diseases*, which is founded upon accurate Observations, and on *Nature*, and real *Facts*, carried on by true *inductive mechanical Reasoning*, whose Inductions and Conclusions are always conformable to what *Nature* indicates and really does, can be truly satisfactory to the conscientious honest Physician, and justify his Practice, either to himself, or to others. For the Life of Man is of too great Importance and Consequence, to be intrusted upon Supposition or Guess, or upon the Effects of imaginary Hypotheses, which too often prove erroneous and false; or upon the positive Assertions of an ignorant vain boasting *Empirick*.

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There also have been some Physicians in various Ages, who have affected to despise the *Doctrine of Crisis's*, and *critical Days* of *Hippocrates*, and the *Ancients*; and even in our Days there are some, who either do not believe, or at least speak very slightly on them; and there are others, who though they allow that the *Crisis of Fevers* might happen to come as the *Ancients* have described them in the warmer Climate of *Greece*; yet will not allow that *Fevers* have any such regular *Crisis's* here in the colder Climate of *England*, which is the Reason of my taking this notice of it here; and I must take the liberty of saying, that those who think so are very much mistaken, and most probably their Mistake has arisen from their neglecting to carefully observe the Motions and Actions of *Nature*, and their Non-attention to *Crisis's*, when they came: For *Fevers* are as regularly carried off by a *Crisis* and a *critical Evacuation* here in *England*, as they were in *Greece*. And it has been observed by several of the most eminent and learned Physicians in *Europe*, that *Fevers* in general are so.

As, by the learned Professor *Boerhaave*^a, in *Holland*; Dr. *Fred. Hoffman*^b, in *Germany*; Dr. *Sydenham*^c, Dr. *Huxham*^d, Dr. *Win-*

^a Boerhaavii Aphor. de Cog. & Cur. Morb. Aph. 587. Et Com. Bar. Van Swieten in ejusd. ^b Fred. Hoffm. Med. Rational. Tom. 3. Sec. 1. Cap. 25, &c. ^c Sydenhamii Opera passim. ^d Huxham de Aere et Morb. Epidem. pass.

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Winteringham^e, and some others, in *Eng-*
land; and I may add, that I have constantly
observed in above thirty Years Practice, that
all epidemical, contagious, putrid, and ma-
lignant Fevers, and the slow nervous Fevers,
and most Fevers in general, come as regu-
larly to their *Crisis*, not only here in *Eng-*
land^f, but I also observed that they did so
in the Island of *Barbadoes*^g, which is situated
within the *Torrid Zone*, and is as much
warmer than *Greece* as *Greece* is warmer
than *England*; and as the Frame and Make
of Men are near the same in all Nations, so
are Diseases nearly the same; and as *Fevers*
are found to come regularly to their *Crisis*,
and go off by a critical Discharge in those
very different Climates of *England* and *Bar-*
badoes, as they did in *Greece*, we may safely
conclude, that they do the same in all other
Nations.

We must except here such Fevers as are
not infectious, contagious, nor epidemical,
but are topical, and purely inflammatory;
which happen accidentally from a Hurt or
Contusion, or from an Obstruction of some
of the small Vessels in some particular Part,
as a simple inflammatory Quinzy, Rheuma-
tism, a solitary Pleurisy, and some other
topical Inflammations, which are taken off
by

^e Wintering Comment. Horolog. pas. ^f Observ. on the
Air and Epidem. Disease at Rippon, in the 2d Edit. of the
Treat. on the Small-pox. ^g See Observ. on Air and Epi-
dem. Dis. in Barbadoes, pas.

by a Resolution of the obstructing Matter, and cured by Bleeding and attenuating *antiphlogistick Medicines*, or end in a Suppuration (if a Gangrene come not sooner on) of the Part affected; which Suppuration may be called an imperfect *Crisis*, as it puts an end to the Fever, and is one of the Methods which *Nature* takes when she cannot resolve or concoct the obstructing *morbid Matter*, and so carry it off by some of the excretory Passages by a critical Evacuation.

We must also observe, that we do not always find that the same *Fever* comes to its *Crisis* on the same Day, or in the same Number of Days here, that it is said to have come in by *Hippocrates*, or the other *Greek Physicians* in *Greece*: Neither does the same *Fever* come to its *Crisis* here, on the same Day in all Years, but sooner on in some Years, and is longer in other Years, before it is critically judged; and I found the same Variation in *Barbadoes*^h, which probably proceeded from the different State of the Air and Seasons, in those different Years; by which we find, that the same Diseases differ greatly in different Years, and require a very different Method of Cureⁱ. Neither is the same Fever always carried off by the same critical Discharge, but sometimes by different critical Evacuations in different Years;

^h Idem p. 39, 45, 57, 93, 98. ⁱ See on the Epidem. Disease at Rippon, with the Treatise on the Small-pox, &c.

Years; tho' it is most commonly by the same in the same Country, tho' it may come in different Days in different Years in any Climate. But I must also observe, that the same Fevers are not always carried off by the same critical Evacuation in the warmer Climates, as in that of *Barbadoes*, &c. as they are in the colder, as in *England*; probably because the Quantity of Matter usually carried off by Perspiration, and especially by Sweat, is so much greater in the warm Climates, than it is in the colder; and the Quantity of animal Salts, which are continually carried off that way, is so great that it renders the Sweat there^k much more salt and acrid, than it is in *England*; and the Quantity of those Salts carried off by Urine, is much less there than in *England*: And *Nature* being so accustomed to discharge such a great Quantity of those animal Salts by Sweat in the warmer Countries, it is no wonder that a *Crisis* carries off the *morbid Matter* of Diseases much more frequently by *Sweating* there, than by *Urine*; and more frequently by *Urine*, in *England*. For I have observed, that the critical Discharge in *Fevers* there is generally by *Sweating*, sometimes by Stool, and a chance time by Expectoration; but seldom or never, by *Urine*: And we scarce ever see any

^k Obser. on the Air and Epid. Disease in Barbadoes, Introduction, p. 6.

any Sediment in the *Urine*, in any *Fever*, not even at the time of the *Crisis*, or at the latter End of, or after the *Crisis* is over, in that warm Climate. I have also a chance time observed, that the critical Day has been changed, as in the depuratory *Fever*, and in a *Συνεχὴς*, or continued remitting *Fever*, and in some other Fevers, wherein they have all come regularly to their *Crisis* on the same Day, for some time; and then the critical Day has been changed to a different Day¹, but this Change happened on the Change of the Season of the Year; and I have always observed, that after the *Fever* so changed its *critical Day*, *Nature* regularly kept the *Crisis* to that Day afterwards, so long as that *Fever* continued to be sparodick in that Year; unless a wrong Method of treating it, or some irregular Practice, had been used before I came; or some extraordinary Accident happened to the Patient a little before, or near the time of the *Crisis*, which diverted and hindered *Nature* from bringing it on at its usual Time: Neither will a small Matter at all times hinder *Nature* from bringing on the *Crisis* at its usual Time, as I have sometimes observed^m: So that after I had once observed the Progress of a *Fever*, and the Day and Manner of its coming

¹ Idem p. 39, 45, 57. Compar. p. 93. with p. 98. ^m Idem p. 56, 57.

coming to its *Crisis*, I could easily and certainly predict both the Day, and by the Symptoms the Recovery of the Patient also, in all the other Patients who had the same *Fever* near that Time. But I must observe, that I have a chance Time observed, that the *Crisis* has come on, on the usual critical Day of a *Fever*, when the morbid Matter has been carried off by a different critical Evacuation from that which it was carried off by in other Patients^a, at and near the same Time, in the same *Fever*; but that Accident most probably proceeded from something peculiar in the Constitution and Structure of those Parts in that Patient (tho' not visible), which turned the morbid Matter from the one Part to the other Part in that Patient; therefore may be properly called a singular or peculiar Case.

And it is as probable, that the Change of the critical Day, in the same Year above-mentioned, proceeded from some Change in the Air, or Season, which happened at or a little before that Time; as from a more cool to a warmer State of the Air, and from a moister to a dryer; or the contrary may happen, which may hasten or retard the Concoction and Expulsion of the morbid Matter more or less, and bring on the *Crisis* sooner or later.

Hippocrates

^a Observ. on the Air in Barbadoes, p. 98. and on Epidem. Dif. at Rippon, p. 5, 26, &c.

Hippocrates mentions an intermitting Fever coming to its *Crisis* on the fourteenth Day, and then going entirely off^o; but this is a Case which very rarely happens in *England*, except a chance time in a vernal intermitting Fever, altho' these Fevers are probably more frequent, especially in some Parts of this *Island*, than they were in any Part of *Greece*. In the intermitting Fevers here, those copious Sweatings, which usually come on in the latter End of every Paroxysm, and carry the Fever Fit entirely off for that Time, is properly a real true *Crisis* of that Fit, as it carries the Fever off: But the Solids being left, and still remaining in a relaxed weak State, and some of the *morbid Matter* probably being left thereby in the Fluids, which they are not able to cast entirely out of the Body, by reason of the diminished *Momentum* of the Fluids, it is continually increased again till there is a sufficient Quantity of it accumulated, to obstruct the perspiratory Pores, which irritates and oppresses *Nature*, and causes her to exert her *Vis Vitæ*, by which she increases the *Momentum* of the Fluids, and brings on the Fever, after the cold Fit, or another Paroxysm, which carries the *morbid Matter* off, by Sweating, as before; and so successively more Paroxysms, one after another, till the relaxed State of the Solids be braced

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up, and their due Elasticity be restored, by giving the *Cortex Peruviana*, or some other corroborating Medicines, which increases their elastick Force, and gives a due Motion to the Fluids, by which all the Secretions and other Functions of Life are restored, and carried regularly on again.

As I have mentioned some Diseases which are topical, and truly inflammatory, it may be necessary to make a few further Remarks on them; as it may probably be of some Service to the young Physician. These Diseases are, a simple inflammatory Fever, inflammatory Rheumatism, inflammatory Quinsy, Pleuresy, Peripneumony, and Inflammation of the Stomach, Intestines, Peritoneum, Diaphragme, Mediastinum, Pericardium, the Brain, Kidneys, the Pelvis, and most other Parts of the Body; each of which have their peculiar Symptoms, and most proper Names, well known to Physicians, and are all accurately described by the learned Dr. *Boerhaave*.

All these Diseases may, and sometimes do arise from an Obstruction in the small capillary Vessels, which proceeds from a Plethora, or too great a Fulness of good rich Blood, by being overheated with Exercise, spirituous Liquors, a heating and inflaming Diet, taking Cold when hot, and from such like Causes, when the Persons Blood was in

a perfect healthful State a few Hours before : All which Diseases frequently are, and may, if taken in time, be taken off and perfectly cured, by bleeding freely, and a liberal Use of antiphlogistick Medicines, assisted by proper Fomentations to relax the over-tense and elastick Vessels, and open the Pores; and a plentiful Use of a cooling, diluting, attenuating Liquid Diet; of which common Whey, as it is a saponaceous Liquor which soon mixes with and dilutes the Blood, is the best. And these Diseases, if not so treated and cured, if they be violent, and the Inflammation great, either end in a total Obstruction and Suffocation of the Vessels, which is soon followed by a Mortification of the Part and the Death of the Patient; or otherwise the Part becomes schirrous, and ends in a painful chronical Disease; or in a Suppuration, and an Abscess in the Part; which, according to the Place it is in, either discharges the Matter, and they recover, or die.

But altho' these Diseases sometimes arise from these simple Causes, yet they more frequently proceed from an epidemical Cause, either from some peculiar Disposition in the Air, or from some infectious Miasma floating in it, which being received into the Body and carried into the Blood, produces those Obstructions, and these inflammatory Diseases, which are in some

Seasons and Years of a more inflammatory Nature, than they are in other Years; and also are attended with a much higher Degree of Inflammation in some Persons and some Constitutions, than they are in others; and therefore require very different Methods of treating and curing them, both in those different Years, and in those different Constitutions; as in one Case they will require Bleeding in a much larger Quantity, and a much more liberal Use of antiphlogistick Medicines, than the other will altho' it be the same Disease, when they both proceed from an epidemical Cause; and therefore neither of them can be entirely taken off and cured by Bleeding and antiphlogistick Medicines alone, as they may be in a solitary Inflammation; yet when the Inflammation is too great and violent, it may be so moderated by the prudent Use of them, that *Nature* will thereby be enabled to go on with the Work of Concoction of the morbid Matter, and its Expulsion by some critical Evacuation, either by Sweat, Urine, Stool, or by Expectoration, as epidemical Diseases generally are carried off.

And as these Diseases are sometimes solely inflammatory, and at other times are attended with very different Degrees of Inflammation, and consequently require as different Methods of Treatment, in order to cure them, according to their different Causes,

Causes, and the different Degrees of the Inflammation; we may see how absolutely necessary it is accurately to observe and carefully distinguish whether they are solely inflammatory, or what Degree of Inflammation attends each of them, in order to form a truly rational and right Method of treating and curing them.

When they are solely inflammatory, the Pulse is generally strong, full, *tense*, and always *hard*, in proportion to the Strength of the Patient, and the Degree of the Inflammation, the *Fever* high, and the Pain acute, &c. therefore require large repeated Bleedings, and a liberal Use of Antiphlogisticks; and when they are epidemical, and the Stimulus or Irritation of the Miasma is considerably great, and the Patient's Solids strong and elastick, the Inflammation and Fever and most of its Symptoms will be great also, and will require large and repeated Bleedings and a liberal Use of Antiphlogisticks, so as to moderate the Fever, that Nature may be able to carry on the Works of Concoction and Expulsion of the morbid Matter regularly by some critical Evacuation, therefore they must not be sunk too low.

And, on the contrary, when the Stimulus of the morbid Matter is more languid, the Patient of a weak Constitution, the Viscidity of the Fluids considerably great, and the

Vis Vita of the Sick too languid and weak, all which are known by the small, low, and most commonly a weak Pulse, which do not indicate Bleeding, tho' the Pulse may be quick and the Patient may be hot, especially about the vital Parts, and sometimes be delirious; but attenuating Antiphlogisticks, prudently mixed with some Volatiles, and sometimes gentle Cardiacks, not too heating, and a prudent Use of Vesicatories, with a diluting attenuating Cordial Diet, so as to assist *Nature* to break and concoct the morbid Matter, and render it fit to be carried off by a critical Evacuation, according to the Indications of *Nature*, and the Methods recommended by *Hippocrates*, *Sydenham*, and *Boerhaave*.

What is of the greatest Importance in the Cure of these inflammatory Diseases, is the diligently observing and accurately distinguishing (when acute Pains seize any of those Parts, which are the Seat of any of these Diseases,) whether the Case be truly inflammatory, or not, by their peculiar Symptoms, as well as when they are more, and when less inflammatory, which is a thing too often not sufficiently observed and attended to; since it is not only certain, that all those Diseases which are called, and are generally allowed to be inflammatory Diseases, are much more so in some Seasons and Years, than they are in some other Years;
in

in which not only the Degree of Inflammation, and the Violence of all the Symptoms, as well as the Degree of inflammatory Siziness of their Blood, are all greater, and require much larger Bleeding, as well as a much more liberal Use of antiphlogistic Medicines, in one Year than they do in another, although it be the same Disease; yet proceed from different procatactick Causes, and are attended with some different Symptoms, and therefore require different Methods of Cure. But what is of no less Importance, is, the carefully distinguishing those inflammatory Diseases, from some other Diseases, which seize the same Parts with acute Pain, but are not inflammatory; or if a little so, sometimes from the Acuteness of the Pain, yet are not always so, nor are they to be treated as such; such as the anomalous Gout, the Stone or Gravel, the Cholick, &c. which have been taken for an Inflammation of the Stomach, Intestines, Kidneys, or Bladder, &c. and each of these inflammatory Diseases have been taken for the anomalous Gout, and treated as such with as bad Consequences, which we too often meet with, when called in too late to prevent their fatal Effects.

And seeing that more or fewer of these inflammatory Diseases are Epidemical more or less, almost every Spring, and in the latter End of Autumn, and differ considerably

in their Symptoms one Year, or time, from another, being some Years of a much more inflammatory Disposition and Nature, than they are in other Years: And as these different Dispositions, and the Diseases themselves, both arise from the different Temperatures and Dispositions of the Air, and the different Constitutions of those Years, as well as from the different Constitutions of Men, we may see how necessary it is, carefully to observe those Variations of the Air, and the Seasons, and the Effects which they have upon the human Body, both on the Sick, and the Sound or Well^a; and the Disposition and Tendency which they give to the Humours to flow to, and affect one Part of the Body more than another, at one Time or Season more than at another, either by increasing the Secretions and Excretions, in one Part of the Body, and diminishing them in another; or by the peculiar Tendency of the epidemical infectious Miasma of that Constitution of the Air, towards one Part of the Body, or to one Secretion more than they had towards another: And from thence, and their peculiar

^a Thus, when a catarrhus Fever is Epidemical, how many People are affected with Coughs, and a slight Catarrh, yet go about their Business, and are tolerably well. And when a Diarrhoea Febrilis, or a Dysentery, are Epidemical, how several People will have a loose Belly, or a few loose Stools, or a little Griping, yet go about Business, and are well. See *Observ. on the Air and Epidem. Dis. in Barb. pass.* Dr. Winttingham Com. Nosolog.

liar Symptoms, we may both know that they are epidemical, as well as from the Numbers seized near the same time; and whether they are more or less inflammatory, if we observe and reason right; and from the Want of which, how often do we see one Disease taken for another, and treated accordingly; as, an epidemical Pleuritis Notha, or a Peripneumonia Notha, taken for a true inflammatory Pleurisy, or Peripneumony; and *vice versa*: And how often do we see these Diseases, or an inflammatory catarrhus Fever, and an Inflammation of the Stomach, or of the Intestines, and of the Kidneys, taken for and treated as an anomalous Gout, with bad Consequences; and sometimes a true anomalous Gout, taken for and treated as an Inflammation of the Pleura, Lungs, Stomach, Intestines, or Kidneys, and too often as a Cholic, and in all with no less bad Consequences; as also in some other Diseases, although the true Symptoms of the *anomalous Gout*, are distinguishably different from the true Symptoms of any, and of all these inflammatory Diseases, if we compare the true pathognomonick Symptoms of it, as they are accurately described by the learned Dr. Boerhaave*, and Dr. Musgrave†, with the true Symptoms of any of those inflammatory

* Boerh. Aphorism. de Podagra. Aph 1273, &c. † Musgrave de Arthrit. Anomala.

on other Diseases*: It will lead us into a right Method of treating and curing both the Gout and them.

As all true inflammatory Diseases require Bleeding, and antiphlogistick Medicines, more or less, according to the Degree of the Inflammation, and the Strength of the Patient, to take the Inflammation off, and cure them; which would be very injurious in the anomalous Gout, which most commonly requires warming volatile cardiac Medicines, and sometimes the Assistance of Chalybeats also^u, to expel the gouty Humour to the remote Parts of the Body, and sometimes Bathing or Fomenting, and other topical Applications, as Fœnigmi, and sometimes Vesicatories, to, or near those remote Parts, in order to draw the gouty Humour to them.

And these warming volatile and heating cardiac and chalybeat Medicines, which will increase the Momentum of the circulating Fluids, and thereby assist Nature to carry the gouty Humour from those internal Parts, to the extreme Parts, where the gouty Humours should be carried, and there cast out of the Body by Sweating, would, by increasing the Motion of the Blood, and the Heat of the Inflammation and Fever, render those inflammatory Diseases incurable, and certainly mortal. And Bleeding,

and

* Boerh. Aphor. de Cog. &c. ^u Musgrove, Ibid.

and a liberal Use of antiphlogistick Medicines, which would cure those inflammatory Diseases, would be as prejudicial in the anomalous Gout, as they would disable and hinder *Nature* from casting it out upon the extreme Parts, and either fix the gouty Humour where it was, or draw more of it thither, or else cast the whole Humour upon the vital Parts, and be fatal.

I know there are some particular Cases where the Gout has been attended with too great a Degree of Inflammation, wherein Bleeding has been necessary; as when the Patient had strong elastick Solids, and the *Vis Vitæ* has been too strong and great, from the great Stimulus of the arthritick Pains, and the inflammatory Sickness of the Blood from thence, or from taking Cold a little before, and the Gout seizing such a Part as was necessary for continuing Life, &c. all which Circumstances not only render Bleeding moderately necessary, but the Use of some Antiphlogisticks, with Volatiles also: And I have known a *Pleuritis Arthritica*, and an *Angina Arthritica*, and some other arthritick Cases, which required, and were speedily relieved, by cautious moderate Bleeding, and the Use of attenuating Antiphlogisticks, with Volatiles, and the Assistance of the above-mentioned topical Applications, whereby the Gout was in less time than 48 Hours brought into the Feet, without

without giving either the heating Aromatics or Chalybeats, as they would have increased the Inflammation too much; and the Gout continued its proper time in the Feet, and went regularly off: But when the anomalous Gout seizes those, or any other Parts of the Body, as it frequently does, without any inflammatory Symptoms attending it, and is accompanied with the true pathognomonick Symptoms of that irregular kind of Gout, more subtile warming Aromatics and Chalybeats are indicated, as they increase the *Vis Vitæ*, and the Momentum of the Fluids, which in that Case are always too languid and low, as the Pulse shews; though it may be quick, from the Stimulus of the Pain, in some Cases, but never full and strong, and thereby assist *Nature* to carry the gouty Matter to the extreme Parts, where it may be carried off by Sweat; and in this Case it may be assisted by the before-mentioned Bathing the Feet in warm Water, and the other topical Applications. But how often do we see some of the above-mentioned inflammatory, as well as some other Diseases, either from a Want of duly observing, by being in too much Haste, or from a want of Reasoning truly from the Causes to their Effects, taken for and treated as an *anomalous Gout*, with bad Consequences, and which might have been easily helped by a

proper Method of treating them: And I have been well informed of a Case of the Gout at the Stomach, with some Pain in the Head, for which a large Vesicatory was applied to the Head, which soon brought the gouty Humour thither, and caused it to swell in an extraordinary manner, and killed the Patient in 30 Hours time; whereas, if it had been applied to the Feet or Ancles, and other proper Methods used at the same time, would have drawn the Gout thither, and have saved the Life of the Patient.

I could mention many more such like Mistakes, which I have met with, when called in, and sometimes too late to relieve them; therefore I mention these for the Sake of the young Physicians, that they may avoid them, because it is of as much Service as placing a Buoy on a Rock or a Shoal is to the Sailors, to avoid splitting or falling upon it; and is of no less Service to the young Physician, and may so far contribute to improve medical Knowledge: But nothing without accurate Observations, after all our Reading, with true inductive mechanical Reasoning, from certain *Facts*, obtained by and from them, and carried on always conformable to *Nature*, and to what *she* indicates and really does, can always conduct us right, and be truly satisfactory to the judicious and honest Physician.

And

I And as I am upon this Subject of Vesicatories, it may not be improper to make some Remarks upon the *Use and Abuse of Vesicatories*, which notwithstanding that it has been already done by more learned Hands, the great *Boerhaave*^a, and the learned *Dr. Baglivi*^b; yet I have long observed, that they are too frequently and too often improperly used, as they are now so much in fashion. No doubt but that *Vesicatories* are, in some particular Cases, a very useful and efficacious Remedy, when they are truly indicated, and judiciously applied; but it is very probable, that we have no one Remedy, in all the *Materia Medica*, that is so frequently abused, and so often improperly applied, as *Vesicatories* now are; not only in too many Cases, where they cannot possibly give any Relief, but too often where they must unavoidably increase the very Evil, which they are intended to remove or relieve. How often do we see them applied, and sometimes several of them at the same time, by pretending Dabblers in Physick, not only where there are no Indications for applying them, but where the true Indications are against their Application; as, in the Beginning of most *Fevers*, and especially in those of the *Inflammatory*.

^a In his Lectures on his Aphorisms, when treating on Fevers and acute Diseases. ^b Bagliv. de Usu et Abusu Vesicantium.

Inflammatory, and of the *putrid Kind*, where, in the first, the Stimulus of the acrid Salts of the *Cantharides*, which pass into the Blood, must unavoidably increase both the Stimulus, and the Momentum of the Blood, which were too great before, (and thereby indicated Bleeding) and so render the *Fever*, Inflammation, and all its Symptoms worse.

And in *putrid Fevers*, especially in the *putrid bilious Fever* in the *West-Indies*, where the whole Mass of the Blood is in a violent Motion, and in a dissolved State in the Beginning of it, and is continually dissolving, and hastening on to a more dissolved putrescent State; and in a *putrid Synochus*, and some other putrid Fevers here, where the Blood is in an attenuated, half-dissolved, putrescent Diathesis; where the *alkalious semi-volatile acrid Salts of the Cantharides*, must not only by their Stimulus increase the Velocity and Momentum of the Blood, which was, in the Beginning of the Fever, too great before, and so hasten on its Dissolution; but by their attenuating, dissolving, and putrescent Property, must greatly increase its Dissolution and Putrefaction, and all the bad, and often fatal Symptoms, and render them still much worse; which repeated Experience confirms.

For, it is well known to the Judicious, both from Observations and Experience, that all the *alkaline Salts*, both *volatile* and

fixed, and their *volatile Spirits* when taken inwardly and carried into the Blood, do both attenuate, dissolve, and increase the putrescent Diathesis of the Blood and animal Fluids, which repeated Observations and Experiments also confirm; and not taken from Experiments made on Pieces of dead Flesh, or with dead Animal Fluids, in a State of Rest; but by taking them inwardly, and their circulating with the Animal Fluids, where they have a very different Effect, from what they have when mixed with those that are dead, and in a State of Rest.

And it is as well known that the *Cantharides* contain a great Quantity of alkaline semivolatile Salts, which pass into the Blood, tho' they are applied externally; and attenuate, dissolve, and hasten and increase its Putrification, which is also confirmed by the putrid alkaline Acrimony which they produce in the Urine, with the Heat and Strangury which it gives to the urinary Passages. And altho' these inflammatory and putrid Fevers differ very greatly, both in their Causes and their Effects, yet it is very evident that Vesicatories are very hurtful in the Beginning of them both, and at any time in the last; as they increase the Inflammation in the one, and the Dissolution of the Blood in the other. And, if they had not these bad Effects when they are thus wrong applied, they could not produce

duce those extraordinary good Effects, which we see they frequently do by attenuating the Fluids when they are too viscid, and stimulating the Solids to a brisker Action on their contained Fluids when they are too torpid and indolent, which they do when those Symptoms indicate their Application, and thereby concoct the morbid viscid Matter, and so assist Nature to bring on a *Crisis* and a critical Discharge of it.

As I have endeavoured to shew in a short manner in what Cases *Vesicatories* are prejudicial, it may not be improper to mention some Cases wherein they are indicated, and are greatly serviceable, that they may be only applied properly, and when they are truly indicated. As, where there is an indolent inactive Torpor and a Weakness of the Solids in a greater or less degree, an Inertness and a Viscidity of the Fluids, more especially of the Serum, Lymph, and finer Fluids, and a Weakness or Diminution of the *Vis Vitæ* at the same time, attended with a small, soft, low, indolent or weak Pulse, or with Spasms, Tremors, a *Subsultus Tendinum*, or an intermitting Pulse, or a Coldness of the extreme Parts, (tho' hot at the Præcordia and in the Head) which are the Effects of the Inactiveness and Weakness of the Solids, and the Viscidity of the Fluids; and in the last Stage of the Small-pox and Measles, and in the latter End of some in-

flammatory and some other Fevers, where previous Evacuations have been made before, where the Fluids are become viscid, and the Solids languid or a little torpid, and attended with some of the above-mentioned bad Symptoms; all which indicate the Application of Vesicatories, and being then applied, they frequently produce extraordinary and almost wonderful good Effects, and often restore the Sick from the very Jaws of Death: They are also of no less Service to derive and assist *Nature* to make a Revulsion of the Gouty or other Humours from the Head or other vital Parts, to the extreme Parts; and as Derivatives and Revellents, to make a Revulsion of the critical morbid Matter, which sometimes has a Tendency to, or is cast upon the vital Parts, to derive it from those to the remote or such other Parts of the Body, by which it may be carried off and critically discharged out of it. Likewise in most paralytick, and such like torpid and cold Cases where a Stimulus is wanted, they not only stimulate the Solids, and thereby produce a brisker and more vigorous Action in them on their contained Fluids, but they also attenuate the fizy viscid Fluids at the same time; and when they are thus indicated, and properly timed and applied, they frequently thus produce wonderful good Effects, not only in those cold Cases, but in the latter End of Fevers, attended

tended with the before-mentioned Symptoms: They, by stimulating the Solids, and attenuating the Fluids at the same time, assist *Nature* to attenuate and concoct the morbid Matter, and carry it off, and the Fever also, by an effectual critical Evacuation, even sometimes when *she* would sink under it without their Assistance, and so assist *her* to restore the sick Patient to Health again. And thus, by only applying them when they are truly indicated, (as they always are by *Nature* when necessary,) we may improve their Use, and avoid their Abuse, and render them more useful to Mankind.

There is another Observation, which I made several Years since, and intended to have mentioned it in a Note in the *Treatise of the Diseases in Barbadoes*, but it was some way omitted or lost by the Printer, as I was absent when the latter Part of that Book was printed; which also caused some Mistakes and Errors in the Press. And as it is an Observation which I have not met with in any Author, and as it more clearly explains the Cause, and improves the Theory of that painful and sometimes dangerous Disorder or Symptom, the *Singultus* or *Hiccup* in some Fevers, it may not be unworthy of a Place here, tho' foreign to the Subject, unless it has some little Claim to its being a small Improvement, or something new.

The *Singultus* or *Hiccup* has been hitherto ascribed by all the Authors that I have met with, even the latest Writers², to a convulsive Spasm of the Diaphragm and the Stomach; which, I apprehend, is mistaking its Effect for its Cause. If we attentively observe, and duly examine the Motions and Action of all the Parts concerned in the Action of that convulsive Spasm, we may clearly perceive, that it is solely caused by a strong convulsive Contraction of the *Oesophagus* only, the superior End of which being firmly fixed to the *Os Sphenoides*, *Os Hyoides*, the *Cartilago Scutiformis*, and the *Processus Pterigoideus*, &c. and the lower End of it to the *Cardia* of the Stomach, immediately after it has passed through the Foramen of the Diaphragm, and hangs so loose that it may be easily moved: And when the longitudinal Fibres of the *Oesophagus* are contracted, and it is shortened by that convulsive Spasm, its upper End being fixed, it must suddenly draw both the Stomach and the Diaphragm with it strongly upwards, which sudden Action being often strongly repeated causes that painful Sensation at the *Cardia* and Diaphragm which usually attends it, when the *Hiccup* continues any considerable time. Whence we see, that it is the Contraction of the *Oesophagus*, which is the immediate

² See the ingenious Notes of Dr. Swan, in his Translation of Dr. Sydenham's Works, p. 41.

immediate Cause of the *Hiccup*; and that the Diaphragm is no other way concerned in the Action, or in producing it, than as it is acted upon by the *Gula*, and the Stomach; and the Procatactic Cause of it is usually something acrid, that irritates and stimulates the longitudinal Fibres of the internal Coat of the Oesophagus, after being taken into, and adhering to its internal Coat; or from something rising or being gulped up out of the Stomach into it, which is acrid and irritates it, and causes that convulsive Spasm; wherefore we find that in a common Hiccup, a little cold Water or soft Liquor takes it off, by washing that acrid Matter down into the Stomach, where it gives no Disturbance; or a gentle Puke or two, and an *Anodyne* and a little *Muske* after it. I grant it may sometimes arise from a Contusion or Wound of the eighth Pair of Nerves, which give Sensation and Motion to the *Gula*; or possibly from the Brain or those Nerves being affected in some particular Fevers, but I believe this last seldom or never happens; and to suppose it, is seeking for a complicated doubtful remote Cause, which never should be admitted in Philosophy or Physick, when an evident and sufficient Cause is or may be found, *viz.* either something acrid taken into, or rising up from the Stomach into the Oesophagus, which irritates it, and produces those convulsive Spasms.

There are some other Cases and Observations, which might have been mentioned here; but as it is probable that they have been observed by some others, I shall omit them now, as this Treatise is already grown much larger than I intended it: And if we diligently pursue this Method of carefully observing, and reasoning agreeably to the Actions of *Nature*, it is hoped that many more useful Discoveries may be made.

As it appears from all that we can collect, both from the Works of all the ancient and modern Physicians and Historians, that all Medicinal Knowledge, and all the useful Discoveries and Improvements which have been made in that *Art*, from its first Rise and Beginning to this Day, have been all obtained by the means of making careful Observations and judicious Experiments, which have been carried on and further improved by the Assistance of just inductive Reasoning.

It was by this Method, and these Means, that the *great Hippocrates* made all *his* great Discoveries in the *Medical Art*; it was by these means that *he* was enabled to investigate the Causes of Diseases; and by the same Method of observing *Nature*, and what she did and indicated to be done, and always keeping his inductive Reasonings strictly conformable to them, and to the Effects which *he* saw *Nature* did really produce

in

in the human Body, that enabled *him* to form such rational and judicious Methods of treating and curing Diseases. And thus, and by these means, all the Discoveries and Improvements which have been made by all Physicians since *him*, in the *Medical Art*, have been made both by the Ancients and Moderns.

So likewise, the Discovery of the Circulation of the Blood, and the insensible Perspiration, and all the other great Anatomical Discoveries before-mentioned, were made by the same Methods and Means.

Thus the great *Sir Isaac Newton* discovered the *Laws of Motion of Matter*; and thus all the real Improvements which have been made in the *Medical Science* since that great Discovery, have been made by accurate Observations and judicious Experiments, carried on and further improved by true mechanical inductive Reasoning from certain *Data*, and real *Facts*, (obtained by those Observations and Experience,) to their Effects, that a more certain Knowledge of the Causes and the Manner of the Production of Diseases has been obtained, and further improved: It was thus, and by these means, that the great *Dr. Boerhaave* formed, and gave us a *true Theory of Diseases*: And then by as carefully observing what *Nature* did, and indicated to be done, and the Effects which she really produced in the Body when

when she acted in the most salutiferous manner, assisted by *true inductive mechanical Reasoning* from those *Causes* to their *Effects*, and always keeping *his Reasoning* conformable to the *Laws of Motion*, and to the *Motions and Actions of Nature*, he formed a no less *rational, true and successful Method of Practice*, which is in all respects conformable to *Reason, Nature, and the Laws of Motion*.

And as these are the Methods by which all true Medicinal Knowledge has been obtained, we may conclude, that they are the only Methods by which the Medical Art can be further improved; and the only Method which can be truly satisfactory to every honest Physician, and can justify his Practice, either to himself or to others, not only in knowing the Causes and the Methods of treating and curing all such Diseases as are now known, but also to discover the Causes and Methods of treating and curing all such *new Diseases*, as may appear hereafter.

I say *new Diseases*, because it is well known to the Learned, that several *new Diseases*, which were not known before, have arisen at different times, and appeared in different Nations; and we cannot say, that no other new Diseases will appear hereafter. The *Small-pox* and *Measles* first appeared in *Arabia Felix*, where they were indigenous, and were unknown to all other Nations,
till

till they were brought from thence into *Egypt*^a, about the Middle of the Seventh Century; and were spread a few Years after over all *Europe*^b, *Africa* and *Asia*, even as far as *Japon*^c.

And that pestilential Fever called the *Sweating Sickness*, first appeared in the Year 1483, and returned again five times in the Space of Sixty-eight Years^d; and never was either known before, nor has it ever been heard of since.

The *Lues Venerea* was first brought by *Columbus's* Sailors, from the Island of *Hispaniola* in the *West-Indies*, to the Siege of *Naples* in *Italy*, in the Year 1494^e; from whence it spread all over *Europe* in a few Years Time, and all the World over since.

And the *Rachitis*, or *Rickets*, is another new Disease; which first appeared in the Inland Part of *Britain*, about the Middle of the Sixteenth Century^f; and soon after spread itself over this and all the other Northern Nations.

Near the same Time, another new Disease first appeared in *Germany*, A.D. 1486, which we call the *Scurvy*^g; and soon after spread itself over most of the Northern Nations, and still continues in them.

And

^a Hillary on the Small pox in Introduc. ^b Dr. Friend's Hist. of Phys. Vol. 2. ^c See Dr. Kempfer's Hist. of Japon. ^d Dr. Caius de Ephemera Britannica. ^e Aphrodisiacus er Boerhaav. Aphorif. Aph. 1440. ^f Idem Aph. 1480. ^g Idem Aph. 1148.

And the *Apbthæ Gangrenosæ*, commonly called the *malignant sore Throat*, which appeared in *London* and some other Parts of *England*, about twenty Years since, and has not entirely left this Nation yet, tho' it is not so frequent now, as it was; it was looked on as a new Disease by some Persons here, altho' it is a Disease which was very well known in several other Countries, many Years before; and, I think, is described by *Aretæus Cappadox*^b, in his concise and elegant manner; from whence it appears to have been a Disease, which was either frequent in, or at least was well known in *Egypt*, and in *Syria*, several Ages before his Time (which was in the Second Century); because he says, Ὅθεν αἰγυπτία καὶ Συριακά ἔλκεια ταῦτε κικλησκουσιν.ⁱ *Unde Ægyptia et Syriaca ulcera id genus appellant.* It is also mentioned by *Ætius* of *Amida*, who lived in *Syria*^k. But we find no mention made of it, either in *Greece*, *Egypt*, or *Syria*, either by any of the *Greek* or *Arabian Physicians*, who lived in those Countries after them; nor in any other Country, till it appeared again in *Spain*, about the Year 1610, and spread itself soon after along the Coast of the *Mediterranean Sea* into *Italy*, and continued to be epidemical in those Countries near the Space of Twenty Years, and then dis-

^b Aretæi Cappad. Opera, L. 1. Cap. 9.
 Oper. L. 1. p. 10.

ⁱ Aretæi Cappad.

^k Ætiii Teterabib,

disappeared. It was fully described by several Physicians, who lived in those Countries at that time, viz. *Heredia*¹, *Mercurius*^m, *Severinus*ⁿ, *Zacutus Lucitanus*^o, *Ætius Cletus*^p, *Sgambatus*^q, *Fracastorius*^r, and some others. It has had various Names given to it, by different Authors; but the learned Dr. *Boerhaave* most properly places it among the Aphthæ, and calls it *Aphthæ Gangrenosæ*^s; and very accurately described it, and all its Symptoms, and Method of curing it, in his Lectures on those Aphorisms. We meet with no Account of this Disease, after the time of the abovesaid Authors, nor any mention of it, except by Dr. *Boerhaave*, till it appeared in *London*, A. D. 1739, and soon after spread itself into several Parts of *England*, and is well described by the ingenious Dr. *Fothergill*^t; and since by the learned Dr. *Huxham*^u, and Dr. *Wall*^w of *Worcester*, with some Improvements in the Method of treating and curing it.

This Disease also spread itself into most of our *American Colonies*, and into the *West India*

¹ Hered. Opera Med. de Morb. Acut. p. 99. ^m Mercat. Opera Consult. Tom. 5. p. 134. ⁿ Severini Oper. de Remed. ab Natura, p. 446. ^o Zacut. Lucit. Prax. Med. Admir. L. 1. Ob. 90. ^p Ætii Cleti de Morb. Strang. ^q Sgamb. de Pestil. Fauci. ^r Fracast. Opera. ^s Boerhaavii Aph. Aph. 948, 989. Et Bar. Van Swieten, Com. in ejusd. ^t Dr. Fothergill on Sore-Throats, 1748. ^u Dr. Huxham on Malig. Sore-Throat. ^w Dr. Wall in Philos. Transf. Abr.

India Islands also; but it only continued for a few Months in the last, especially in the Island of *Barbadoes*, and then totally disappeared.

But a few Years before this Disease came thither, another *new Disease*, of a different Nature, appeared in some of those *Islands*, which has increased and spread itself considerably, especially in *Barbadoes*, during the ten Years last past. And as I could not meet with any *Author*, either *Greek* or *Arabian*, or any other, either *Ancient* or *Modern*, that have either mentioned or described any Disease, that is in all Respects like to, or resembles it; and as it was *new*, and had no Name, I called it *Aphthoides Chronica*; as it the most resembles the *Aphthæ* of the *Ancients*, of any Disease that we know: Yet it differs considerably from the *Aphthæ* of both the *Ancients* and the *Moderns*; as it is a Chronical, but the *Aphthæ* an acute Disease, and in several other Respects; and more so from the *Angina Gangrenosa*. And as it was a *new Disease*, I endeavoured to investigate its Cause, and the manner of its Production, from Observations made upon it, and its Symptoms, Progress, and Effects; and from thence I endeavoured to form a rational Method of treating and curing it; all which I have described in such a plain clear manner, that the Disease may be easily known when

when seen, by those who have not seen it before: To which is added, that Method of treating and curing it, which I found to be the most successful: See *Observat. on the Air and Diseases in Barbadoes*, pag. 277, &c.

And seeing that various *new Diseases* have appeared within the three last Centuries, and some of them within the short time of our own Observation, within the present Age; when we duly consider these things, and seriously reflect on the great Height to which the Effeminacy, Idleness, and Luxury of the present Age are carried, more especially among the middle and lower Sort of People; which if they do not in time produce some political Evils, are in danger of producing many corporeal Evils, either by increasing and aggravating the already known Diseases, or by generating some new Diseases, which are now unknown, but may sooner or later arise, and appear hereafter; at least it is much more probable that some such new Diseases may appear, than the contrary that they will not.

But if hereafter any such *new Diseases* do arise, the most certain way to truly know what they really are, from whence they proceed, what their Dispositions, Tendencies, and Natures, and what their true Causes are, must be investigated by making accurate Observations upon all the Changes
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of the Air, Weather, and the Seasons, before, and at the time of the Accession of those new Diseases; what Effects those Changes of the Air, &c. have upon the Bodies of the Sound, as well as on the Sick, and what Changes they produce in their Bodies; what Diseases were Epidemical before, and at the time of the Accession of those Diseases, and how much they partake of their Symptoms; what Secretions, Excretions, and Functions of Life are the most affected, and how, and what Effects they produce; and what Symptoms attend those new Diseases, in all their Stages, their Accession, Increase, Height, Declension, and their Crisis; and by what critical Evacuation they are carried off: And then by the means of true inductive mechanical Reasoning, from those remote and immediate Causes to their Effects, we may truly know both what the Disease is, and what is its Cause. And then by observing what *Nature* does, and indicates to be done, assisted by the same Method of Reasoning, from those Causes, and their Effects, conformably to what *Nature* does, and indicates to be done, we may know both how, and when we may, and should assist *her* in the most effectual manner, to carry off and cure those Diseases.

By this Method of diligently observing, and Reasoning justly and truly, which in
some

some Cases, especially in Diseases that are new, may be assisted by a true Analogy from similar Cases, we may not only truly know what those new Diseases are, (as well as know all other Diseases) and their Causes, but we may also form the most rational and judicious Methods of treating, and the most successful Methods of curing them; if we do but always take care to reason from certainly known Data, and conformably to what *Nature* indicates, and really does, and assist her agreeably thereto. And as carefully avoid falling into the Method of forming Hypotheses, and Reasoning from imaginary Data; which in all Ages have not only led Men into Mistakes and Errors, but have diverted them from pursuing those Methods, by which they might have discovered Truth, and improved both philosophical and medicinal Knowledge, for the Benefit of Mankind.

S E C T. V.

Some Remarks on the Materia Medica.

IT appears from what is said before, that all true medicinal Knowledge, both in the *Theory* and *Practice of Physick*, and all the Improvements which have been made therein, from its first Rise to this Time, have all been obtained by making accurate

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Observations and Experiments, assisted by
just inductive mechanical Reasoning, con-
formable to *Nature*, and her Manner of
acting.

It was by these Methods, and these Means,
that the Knowledge of the Structure of the
human Body, and the Use and Office of all
its Parts, and the different Functions of
Life which they perform, have been disco-
vered and known; and it was by these
Means, that the remote and immediate
Causes of Diseases, and their Manner of
being produced, have been investigated;
and it was by the same Method of observing
Diseases and *Nature*, and the Effects which
she produced, that the most rational and
right Methods of treating and curing them,
were discovered and known, and by just
inductive Reasoning have been improved.
And in knowing how to do all these right
and truly, consists the most essential and
scientific Part of medical Knowledge, and
the medical Science; and is what will al-
ways distinguish the *real* from the *nominal*
Physician, and from the *Empirick* and the
Quack.

It is not our having a great Number of
choice *Prescriptions*, or a great Variety of
Formulae, however neat and elegant, or how
efficacious soever they may be, when pro-
perly and judiciously adapted and applied;
or our having the greatest Collection of the
best

best Prescriptions, from the most able Physicians, or the most learned Authors that ever prescribed, that will make either the most able, or the most successful Physician; but his truly knowing the Disease, and what its Cause really is, and when and how he should assist *Nature* by administering suitable Medicines, and when not to give such Medicines as above; for unless the same Circumstances, Symptoms, and Indications of *Nature*, do truly indicate their being given at that very time, they will not produce those same good Effects, which they may have seen them produce before, when they were so indicated and prescribed by that Physician, tho' it be the same Fever or Disease; therefore they not only do no Service or Good, but may do Hurt, if they are not so indicated by *Nature* to be given. Wherefore, I have given no *Prescriptions* here, in those few particular Cases, which I have had occasion to mention in this Treatise; as a Number of *Formulae* would only serve to lead young Physicians into an empirical Practice. And I suppose him already to know the Nature and Virtues of most of the simple Medicines; which are *Emeticks*, *Catharticks*, *Diureticks*, *Sudorificks*, *Antiphlogisticks*, *Antisepticks*, *Deobstruents*, *Attenuants*, *Incrassents*, *Cardiacks*, *Corroborants*, or *Anodynes*; and which of each of them are the weakest and mildest, and which are

the most powerful active, and the strongest; and both when, and what Doses, as well as to what Constitutions he should prescribe each, or any of them; as well as what Secretions they increase, and by what Evacuations they usually pass off.

As the most material Thing is, and true Medical Knowledge consists in truly knowing the Disease and its Cause, and what Nature indicates to be done, and by what way she intends or indicates the Disease to be carried off; this being known, he will readily know what Medicines will most effectually assist her, as well as when he should direct them to be given. For if he only prescribes, or gives such a Medicine, because such an eminent Physician, or such an Author prescribed them in such a Disease with great Success, and has not the same Indications, such Practice is *Empirical*, or no better than Quacking.

The *real Physician* prescribes such a Method, and such Medicines, because he knows the Disease, its Cause, what Ways and Means Nature indicates, and by what critical Evacuation she endeavours and intends to carry the Disease and its Cause off; and by just Reasoning from thence, knows when, and how he should assist her to effect that.

The *Empirick* prescribes such a Medicine, and such a Method, because such an Author,

thor, or such a Physician, or himself, has known that Medicine cure such a Feyer, or such a Disease, without either knowing its Cause, or the true Intentions and Indications of *Nature*, in any of those Diseases; and as both the Cause, the Manner of the Production of the Disease, and the Indications of *Nature*, are often found to be very different, even in the same Disease; and when their Causes, as well as the Constitutions of the Sick, are so different, he must frequently fail in his Success; but if he chances to succeed, especially in giving that Medicine to several Patients, he grows so fond of it, that it becomes his favourite Medicine, and he prescribes it almost in all Cases and Constitutions, and too often where there are no Indications for it, and sometimes where the Indications are directly against the giving it, and where it must be injurious; though he does not see this, because he prescribes it without truly Reasoning from its Causes to its Effects, or its true Indications, *viz.* empirically, or by guess: Hence we see some become so fond of some particular Medicine or another, that they *Empirically* give it almost in every Case, and so it soon becomes fashionable.

The Quack gives his Medicine, or Medicines if he has more than one, without either knowing the Disease, its Cause, or any rational Method of curing any Disease,

or without knowing any thing of Nature, or her Indications, or because he neither knows, nor has any other Medicines, and sometimes chances to cure, and sometimes kills.

I have said before, that all the Knowledge that we have of the Operations and Effects of Medicines, is solely from Observation and Experience, and all the Improvements therein have been obtained by the same Means; but the proper Times, and the Manner of administering them, has been known and improved, by just Reasoning from accurate Observations and Experiments. Because all that we do, or can know of Matter, and its different Appearances, Modes of moving and acting, and all the various Effects which it produces, are only known by Observation and Experiments; since neither Seeing, Smelling, Tasting, or any of our Senses, can certainly inform us, *a priori*, what Effect any Medicine will produce, when it is taken into the Body; our Senses cannot inform us why, or whether *Ipocacuanba* will vomit, or *Jalap* purge; or why any other Medicine will produce any other Effect: This is, and only can be known by Observation and Experience, and not by Reasoning either geometrically, or mechanically, from the Structure or Figure of their ultimate component elementary Particles, as some Physicians

Physicians have pretended, and vainly attempted to explain. Our so much boasted-of Knowledge of *Matter* and *Nature*, is at the best but very imperfect, and we are totally ignorant of the Composition, Formation, and Figure of the ultimate elementary Particles of all Bodies, and all *Matter*; and the internal Essences of Things; all that we know of them, is solely from their external Appearances, and from Observation and Experiments, on the sensible Effects which they produce; and all that we know of *Nature*, is only by Observation and Experience on the Effects which she produces. Yet this experimental Knowledge of *Matter* and *Nature*, or so much as we are capable of knowing of them, by Observation and Experiments, if properly pursued, is sufficient, and aptly fitted in a suitable Dègree to our present Condition in this Life; and if rightly applied, may answer all the reasonable and necessary Ends of our Preservation and Well-being; if Men would but diligently apply their Abilities and Endeavours to discover all such Things as are necessary and useful, and which may be known by the human Mind, and may be applied to the Benefit and real Advantage and Good of Mankind; and not vainly attempt to discover, and know those Things which are of an infinite Nature, or are placed above the Reach of human Powers,

and beyond the utmost Extent of the Power of the human Mind, which is Finite, and cannot comprehend an Infinite; and if they were known, could neither be beneficial to Mankind, nor any way contribute to their Well-being: Thus Men may improve useful Knowledge, and contribute something almost continually to the Good and Well-being of Mankind.

And seeing that all that we know of Matter, and the several different Kinds of it, which the *Materia Medica* is composed of, and all the Knowledge that we have of their Virtues, Uses, Operations, and Effects, is solely obtained by Observation and Experience: (I have said the several Kinds of Matter, though I know it is the common received philosophical Opinion, that the ultimate Elements of all Matter, and all Bodies whatever, are the same, and that Bodies only differ one from another, in the different Figures, Degrees of Contact and Cohesion, Condensation, and Rarefaction, &c. of their constituent elementary Particles: But if we strictly inquire into the Grounds and Reason of that Opinion, we shall find that it is only hypothetical; and that there are more Arguments and substantial Reasons for us to suppose, that INFINITE POWER has given Existence to several different Kinds of Matter, if not to as many different Species of Matter, as HE has to
different

different Kinds of Bodies, and different Things; yet has subjected them all to the same *Laws of Motion*, (if we except *Fire*, and peradventure *Light*); as, to Vegetables, Animals, a great Variety of different Metals and Fossils; also the Elements of Air, Water, Light, and Fire, which appear to be of very different Natures, and have different Properties, and produce very different Effects, when they are tried by many Experiments.) And as all the Knowledge that we have of Matter, is solely by Observation and Experiments; and as these all shew us such different Appearances, Properties, Natures, and Effects from each other, when tried by various Examinations and Experiments, we have many more Reasons to conclude, that they are composed and formed of different Species of Matter, than we have, that they are all composed of the same Sort of Matter, as it is equally as possible that the INFINITE BEING has given Existence to several different Species of Matter, as to several different Species of many other Beings. But let us return to the Subject we are treating upon.

Although all the Knowledge that we have of the Virtues, Operations, and Effects of all the Medicines contained in the *Materia Medica*, has been first obtained by Observations and Experience; yet the true Knowledge of Diseases, their Causes, and the

the true Intentions of curing them, as well as when, how, and at what Times of those Diseases any of those Medicines are indicated, and should be given, or applied, can only be truly known by accurate Observations, certain Experience, and true inductive mechanical Reasoning from real Facts, and conformably to Nature, and what she indicates and does; and in knowing, and doing this truly, is contained the true Knowledge of the *medical Art*, and the Abilities of the Physician, and is what will always distinguish the *real* from the *nominal Physician*, as *Hippocrates* says.

But although we may thus truly know Diseases, and the right Intentions of curing them; and that all our Knowledge of the Natures, Operations, Virtues, and Effects of all Medicines, has been all obtained by Observation and Experience only, or from Authors who had obtained that Knowledge of them by those Means before, and not by Reasoning, as it can have no Place therein; yet both Reasoning and Analogy may assist to inform us how and when to give them, in new and similar Cases: But as most, if not all Diseases, may sometimes be so violent and great, that the most able Physician and most powerful Medicines cannot cure them; therefore in that Case he can do no more than predict that, and the Death of the

the Patient, since all Men must die at some time.

What the *Materia Medica* of the first Ages was, we are totally ignorant of it; but as their Diseases were simple and few, we must suppose that their Remedies were so also; especially from the first Rise of the ART, if it may be so called at that time, down to the time of *Æsculapius*; or from his time down to that of *Hippocrates*, as we have no Records left us to inform us what it was. For as to the ancient Stories of the *Hipopotamus* shewing Men how to bleed, by Bleeding himself with a sharp pointed Reed, when he was Sick; or the Bird *Ibis* giving himself a Clyster of Salt-water with his Bill; or that of King *Prætus's* Daughters being cured of a *Mania*, by drinking the Milk of Goats fed with *Helebore*, and such like Stories, they merit not much Credit, though they may shew the great Antiquity of the Use of Bleeding: But if any Person, in any of the Branches of the Profession, will be so over fond of Antiquity, that he will have them to be true, I will not dispute it with him, but allow him to think, that the *Hipopotamus* was the first Surgeon that let Blood, and the *Ibis* the first Apothecary that gave a Clyster: It might possibly be so, since we see the great Sagacity of Brutes and Insects, or their Instinct, (or rather their Reason) which is in many

many Cases very extraordinary; as in Dogs, whose Appetites are sometimes voracious, and when they cannot digest it, and are Sick, readily go and seek out the Dog-grass, and eat it, without being taught, or directed to it; which is an Emetick to, and quickly cures them; and the same Sagacity may be observed in some other Beasts, Reptiles, and Insects, if we do but more attentively observe them.

How much that *Father of Physick*, *Hippocrates*, improved the *Materia Medica* of the *Ancients*, and whether as much as he did the *Theory and Practice of Physick*, we cannot tell, because we know not what theirs was before *his* Time. But if we compare the Number of Medicines and Simples^a, which were used by *Hippocrates*, with those made use of in the succeeding Ages, we shall find that they were but a few, in comparison with those which they had, or which we now have in most of our *Dispensatories*; yet by his duly observing, and truly knowing Diseases, and their Causes, and the Indications of *Nature*, and properly applying those few Medicines and Simples which he had, when, and only when, they were truly indicated, he performed as great, if not greater Cures, than most of his Successors have done since.

If

^a Vide Dr. Le Clerc. Hist. de la Medicin. p. 217, &c.

If we only compare the Number of the Simples and Medicines, which are mentioned in the Works of *Hippocrates*, with those which are in the Works of *Dioscorides* and *Galen*, who lived about five hundred Years after *him*, we shall find, that the Number used by them, was considerably increased in that time; besides several of their long and tedious great Compositions, in their *Theriaca's*, and other *Antidotes*, as they called them; by which they had greatly increased, and in some Respects improved the *Materia Medica*: But *Celsus* more strictly followed the *Hippocratick Method of Practice*, than most of the *Greek Physicians* did, if we except *Aretæus Cappadox*; and if we examine the *Eupariston of Dioscorides*, or the *Materia Medica of Galen*, we meet with several both simple and compound Medicines, which were not known to *Hippocrates*, most of which are in Use at this time.

But as *he*, and some of the other *ancient Greek Physicians*, who were the Inventors of the *medical Art*, have made so many considerable Improvements therein, all future Ages after them were greatly obliged to them for their so doing.

We must, for Truth's sake, also observe, that most of the *Greek Physicians* gave some of their most active Medicines, especially
several

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several of the *stronger drastring Purgatives*,
in such large Doses, as would be attended
with very bad Consequences now, if they
were not so then, (unless there be some
Difference in the manner of preparing them
now) as in the Dose of the *White Hellebore*,
Elatarium, and some others. And the *Greeks*
first introduced the Use of the *hot Alexi-*
pharmick Medicines into Practice, which are
in some particular Cases, of great Service;
but are greatly hurtful where the Fever is
too high, or where any Degree of Inflam-
mation attends; and their Use has been
much abused by many of their Successors,
and are at this time too often so used. So
that we may justly doubt whether *Andro-*
machus, *Galen*, and some others, did not
do more Injury to the *medical Art*, by in-
troducing those heating, inflaming, and
immoderate great Compositions into Prac-
tice, than Service by it; several of whose
numerous Ingredients are of a direct con-
trary Nature, to what some others of them
are; as in the *Tberiaca*, which contains
above eighty different Ingredients, and the
Mithridate almost as many; and their Dose
is from a Scruple to a Drachm, which is
not a Grain of each, one with another;
consequently, if most of the Ingredients
were ever so efficacious, they could have
little or no Effect, except the Opium, when
given in such insignificant Quantities, and
most

most of those which are of the same Nature are heating and inflaming; wherefore as they are generally used, they are more injurious than they are beneficial; and that *Galen* did more Injury to the *Art*, by introducing his imaginary *hypothetical Theory*, than he did Service other ways, cannot be doubted, as he thereby led Physicians from pursuing the *Hippocratick Method*, by which it might have been greatly improved.

And although the *Arabians* made no Improvements either in *Anatomy*, or in the *Theory of Physick*, as they chiefly followed *Galen* in both, and generally took what he said therein, as far as it was intelligible, for Truth; yet they made several useful and great Improvements in the *Materia Medica*, (as well as in giving us an Account of several new *Diseases*, and the Methods of curing them.) And if we collect and compare the various Medicines which were used by *Mohamed Rhaxis*, *Haly Abbas*, and *Avicenna*, with those which were used by *Galen* and the other *Greek Physicians*; or the *Materia Medica* of *Mesue of Damascus*, with that of *Dioscorides* of *Anazerba*, we find many Medicines in them, which were unknown to the *Greeks*; as most of the *Eccoprotick*, and cooling *Purgatives*, such as the *Cassia Fistula*, *Tamerinds*, *Myrobalans*, the two Sorts of *Manna*, that which is produced from a peculiar Kind of *Ash-tree*, called by
the

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the *Arabians* ^{عرب}, *Men*, now in use; and
the *liquid Manna*, produced from a Tree
with an Oak-leaf, in *Persia*, called ^{شیرین},
Tereniabin, which is not much used now;
also *Sena*, *Tartar*, and the *Ravedseni*, *Rha-*
barbarum, or *Rha of China*, so called to
distinguish it from *Rha-ponticum*, which
was used by the *Greeks* before; also *Musk*,
Camphor, *Civet*, *Gum Assa-Fœtida*, *Ammo-*
niacum, *Lacea*, *Bdellium*, *Olibanum*, *Arabi-*
cum, *Sagapenum*, and *Euphorbium*, though
the last is said to have been first discovered
by *King Juba* in *Africa*, who called it, and
the Plant which produces it, *Euphorbium*,
after his Physician's Name *Euphorbus*; like-
wise several of the most valuable and useful
Spices, which from their pleasant Flavour,
agreeable Taste and Usefulness, are now
much introduced into our Diet; as *Nut-*
megs, *Mace*, and *Gloves*; also *Ginger*, *Ze-*
doary, *Galangal*, *Zerumbith*, and *Turmerack*,
and some others, which are now brought
from the *East-Indies*, and used in Medicine.
They also first introduced the *chemical Art*,
and *chemical Medicines* into *Practice*; and
invented several of the *chemical Instruments*
and *Vessels*; as the Use of *Mercury*, and
some *chemical Preparations* and *Sublimations*
from it, though they chiefly used it, and
them externally, in *Amalgamas*, *Plasters*,
and *Unctions*; likewise several Preparations
from various *Metals*, *Vegetables*, *Parts of*
Animals,

Animals, &c. such as several Sorts of *Salts*, both *fixed*, *Alkaline* and *Volatile*; and the Art of *distilling Waters*, *Spirits*, and *Oils*; the Method of extracting *Tinctures*, *Elixirs*, and the Method of preparing a great Variety of several Sorts of *Oils*, both by *Distillation*, *Expreffion*, and *Decoction*, many of which are not now used. They also first invented and introduced the Use of *Sugar in Medicine*, with which they made various *Syrups*, *Conservees*, *Condits*, *Quidanes*, and *Robs*, by which they greatly increased the Number of *Medicines*, and much improved the *Materia Medica*; and notwithstanding that some modern learned Authors have blamed them so much for introducing the Method of too much compounding their *Medicines*, they certainly learned that from the *Greeks*; for although several of their Compositions do contain too many *Ingredients*, yet they have none of their own which have near so many in them, as the *Tberiaca*, *Mithridate*, *Philoniums*, and some of the *Antidotes* of the *Greeks* have; though it must be allowed, that both the more modern *Greeks* and *Arabians* compounded several of their *Medicines* a great deal too much. However, we are greatly obliged to the *Arabians* for their inventing so many valuable and useful *Medicines*, and for their so much improving the *Materia Medica*, as well as for their rendering *Medicines* more grateful and pleasant:

fant: And although the *Arabians* (or *Saracens*, as they were called in *Europe*) had little Learning amongst them, when they first began to make a Figure in the World, as a warlike People; yet they soon after began to encourage *Learning*, and to cultivate the *Sciences*, particularly *Physick*, *Philosophy*, *Chemistry*, *Mathematicks*, and *Astronomy*, in the *East*; and as they conquered the greatest Part of *Spain* in the eighth Century, so they not long after brought the Knowledge of all those *Sciences* thither, where they were but little known in any of the *Gothick* Dominions before; and in the eleventh Century they founded an *Academy* at *Corduba*, where they were all taught and studied, and where some time after those two subtile *Philosophers* and eminent *Physicians*, *Averrhoes* and *Avenzoher*, both practised and taught the *medical Art*. Here Learning, which had been banished out of *Europe* several Centuries before, began to revive among the *Arabians*, who brought it out of the *East* into *Europe* again; and some Centuries after it began to revive among the *Christians*, especially at *Salernum* in *Italy*, and slowly after that to spread into other Parts, as before observed. But as the little Learning that was then left in *Europe*, was ingrossed by the *Priests* and *Monks*, who kept the *Laity* as much in Ignorance as they could, (and even they had but very little

little themselves), its Progress was very slow, and consequently no Improvements were made, either in the *Theory* or *Practice of Physick*, or in *Pharmacy*, or in any of the *Sciences*, till in the sixteenth Century; neither could any be expected from them in that time of Ignorance.

But the *Art of Printing* being invented, and the *Reformation* brought on, Men began to acquire some Learning, and soon after to cultivate the *Sciences*, and especially *Physick*, *Anatomy*, and *Chemistry*; and the *Arabians* having brought these *Arts* out of the *East* into *Spain*, and the *chemical Art* being a new thing, was much admired, and soon became greatly in vogue, and was much cultivated soon after in several Parts of *Europe*, more especially in some Parts of *Germany*; and various useful and valuable Medicines were discovered and introduced into the *Practice of Physick*: And notwithstanding that several of our first *European Chemists* were Men of such a Turn of Genius, and such vain boasting Enthusiasts, as before observed, yet we must allow, that they discovered many useful Medicines, which when they came into judicious Hands, who experienced their Virtues and Effects, and knew how and when to prescribe them properly, they found them to be the most efficacious Medicines that they then had, or we now have in curing several Diseases;

especially the *Venereal*, and some other Diseases: This first was then a new Disease, and had often evaded the most powerful Effects of their most efficacious *Galenical Medicines*, which were the only Medicines in Use before the Chemists invented and introduced their *chemical Medicines*, which soon were found to be much more efficacious and successful in curing that Disease, as well as some others; especially by *Mercury*, and some of the *chemical Preparations* from it: And it has been found since, that some other Diseases, which are no less difficult to be cured, or that have been before deemed incurable, yet when taken in time, have been cured by *Antimony* and the *Chemical Preparations* from it. So likewise the *Chemical Art* has since been so much improved, that various *Preparations*, both from *Steel*, and some other *Metals*, and various *Salts*, from mineral, vegetable, and animal Bodies, and many other chemical Medicines, well known to Physicians, and to the Apothecaries also, which are too numerous to be mentioned here, whose Virtues and Uses are as well known, whereby the *Materia Medica* has been very much improved, and very greatly increased.

The *Botanical Art* has also supplied the *Materia Medica* with a great Variety of Articles, which have both much increased, and in some respects very considerably improved

proved it; and several very valuable and efficacious Medicines have been discovered, and their Uses greatly improved by the Observations of several judicious Physicians made on them, and the good Effects which they have produced, when they were properly administred: And it is well known that there are several Plants, Flowers, Seeds, Roots, and various Gums, Resins, and the Barks of several Trees, which are endowed with extraordinary medicinal Virtues, which have been discovered by Observation, and known by Experience, in distant and different Ages: And it must also be confessed, that several of each of these have also been introduced into Practice, and some considerable Virtues and Uses have been ascribed to some of them, which are either very weak, or wholly supposititious and imaginary, and have only served to increase the Bulk of the *Materia Medica*, without adding any thing really useful to it; therefore it is wished, that all such weak and insignificant Things were intirely rejected out of our Dispensatories.

The *Arts and Sciences* being now cultivated, that of *Navigation* was greatly improved, and the *Europeans* soon after that, found out the Way to both the *East* and *West-Indies*, and discovered *America*, and the South Parts of *Africa*; from all which many useful Drugs are now much more

easily obtained than they were before, by Carriage over the Land: Such as *Camphor*, *Musk*, *Civit*, *Ambergrease*, and many rich *Aromatick Spices*, as *Cinnamon*, *Nutmegs*, *Mace*, *Cloves*, *Cardamom Seeds*, *Cassumunar*, *Zedoary*, *Galangal*, &c. also *Gum Galbanum*, *Gambogia*, *Assa-Fætida*, *Ammoniacum*, *Tragacantha*, *Arabicum*, *Sagapenum*, *Soccotorine Aloes*, and some other Drugs, which are all brought from *Arabia*, *Persia*, and the *East-Indies*.

And by our Commerce with *America* and the *West-Indies*, we have several valuable Drugs and efficacious Medicines brought from thence; as the *Cortex Peruviana*, *Winterani* or *Canella Alba*, *Elatheerii*, *Lignum Sassafras*, *Guajacum*; *Rad. Ipocacuanba*, *Sarsaparilla*, *Jallapii*, *Serpent. Virginianæ*, *Poligulæ Virgin.* *Contrayervæ*, *Chinæ*, *Gum Guajac.* *Elemi*, *Tacamabaca*, and some other Drugs; several of which are very valuable and efficacious Medicines, when judiciously and properly administred; although we had the first Knowledge of these last, and of some of their Virtues and medical Uses from the *Indians*, who had obtained their Knowledge of some of the Virtues and Uses of some of them by Observation and Experience, before the *Europeans* came thither; and what Knowledge they had so obtained, they communicated to the *Europeans*.

From

From what we have said before it appears, that all the Knowledge that we have of the Virtues, Operations, and Effects, which all Plants, Drugs, and all Medicines that we yet know, have in and upon the human Body, has been all obtained by Observation and Experience; neither does the human Mind seem capable of acquiring that Knowledge by any other Means; although we may greatly improve that Knowledge, both in the Use, the Times, and the Manner of applying those Medicines, whose Operations and Effects are thus known, both by the Assistance of a just Analogy, and the right Use and Application of true inductive mechanical Reasoning, from Observations on *Diseases* and *Nature*, and what she indicates and really does; if we always carefully keep that Reasoning strictly conformable to *Nature*, and her Operations, and confirm the Truth of its being so conformable, by further Observation and Experience, before we receive their Inductions and Conclusions as established Truths.

It was thus that the first Knowledge of the Virtues and Uses of any medicinal Plants, or Medicines, were obtained in the first Ages of the World, and that Knowledge was preserved and communicated to others by Tradition; and afterwards by the *Priests* of *Æsculapius* in *Greece*, before the time of *Hippocrates*; and by the *Gymnosophistæ*,

phistæ, or *Brachmans* in the *East*, and the *Druids* in the *Western Nations*; and by the *Jongleurs* and *Pawawers* among the *American Indians*, and the *Obia-Men* among the *Negroes*, who are their *Wise Men*, *Priests*, and *Physicians*, who still practise in that empirical Manner in their Countries, and some perform notable Cures, which preserves their Reputation among their own Country-people.

These *Indian* and *Negro* Practitioners communicated what Knowledge they had of the Uses and Effects of the above-mentioned Medicines, and their Manner of using them, to the *Europeans*, after they came into their Countries: And when those *Indian Medicines* were brought into *Europe*, the *European Physicians*, finding by Experience that they had those good Effects which the *Indians* ascribed to them, and were efficacious in curing those Diseases which they said they would cure, viz. the *Bark* cured intermitting Fevers; *Ipecacuanha* Diarrhœas and Dysenteries; the *Sarsaparilla* in some Cases in the *Lues Venerea*, &c. And the *European Physicians* having a much superior Knowledge of the Nature and Causes of Diseases, and a more perfect Theory and rational Method of curing them, they not only used those Medicines at the first, as the *Indians* used them, but they greatly improved both the Methods of giving

ing those *Indian Medicines*, so as to render them more successful in curing those Diseases, which the *Indians* had usually cured with them; but by Analogy, and the Assistance of true inductive mechanical Reasoning, they were enabled to apply them more successfully to cure several other Diseases, which the *Indians* either had not, or did not know how to cure with them; so that the Knowledge of their *medicinal Virtues* and Uses has been greatly improved since their Importation into *Europe*, by which some of them are known to be of the greatest Service in the Cure of several other Diseases, and that more successfully than they were by any Medicines which we had before. And by the Addition of these useful Drugs and valuable Medicines, the *Materia Medica* has been much increased and improved.

Thus we have endeavoured to trace out and discover the Means by which all medicinal Knowledge has been obtained in all Ages, and how it has been improved both in its *Theory* and *Practice*, as well as how our Knowledge of the Virtues, Uses, and Operations of Medicines, has been obtained, and how all these have been by slow Degrees improved in different Ages; also how our present *Materia Medica* has been augmented, and brought to that great Bulk which it is now arrived to, in comparison
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of what it was in the Days of *Hippocrates*; first by the *Greek Physicians*, more especially by *Dioscorides* and *Galen*; and then by the *Arabian Physicians*, who it must be allowed have discovered and introduced a great Number of very useful and most valuable Medicines, especially those of the *antiphlogistick Kind*, into the *Practice of Physick*, by which both the *medical Art*, and the *Materia Medica*, have been greatly improved: Also what great Improvements both these have received, by the Labours and great Discoveries of the *Chemists*, and several from those of the *Botanists*; more especially since our Communication and Commerce with the *Indians*, in both the *East* and *West-Indies*, from whence we now have several of our most useful and most valuable and efficacious Medicines, by which our *Materia Medica* has been greatly enriched and improved.

But we must, for Truth's sake, also observe, that notwithstanding that some of the *Chemists* and *Botanists* have invented and discovered several of the best and most efficacious Medicines that we now have in the *Materia Medica*, or in our *Practice*, yet it must be allowed, that some others of the *Chemists*, and also the *Botanists*, have too often ascribed such extraordinary Virtues and Effects, to several of their *chemical Preparations*, and to many of their *Plants*,
and

and their *Productions*, as they never were possessed of; and too often, from too great a Fondness for their imaginary Discoveries, they have attributed some great Virtues to several of them, which upon a more strict Examination have been found to be so weak, as to be mere Insignificants, and some others to have no such Virtues at all; whereby the *Materia Medica* has been so much increased in its Number of Materials, and in its Bulk, that it is now become as much superfluous, and unnecessarily incumbered and troublesome, as it was deficient in the time of the *Greek Physicians*: And we may not only with Safety, but with considerable Advantage expunge half, if not Two-thirds of the *Plants*, and a great many *Drugs*, and *chemical Medicines*, which are now contained in most of the *Dispensatories*; especially all those whose medicinal Virtues are so weak, as to be either very uncertain whether they have any, or are known to be mere Insignificants: And we may practise with greater Certainty and more Success, with the remaining Part, if we do but choose such of them whose medicinal Virtues and Effects are certainly known, and properly time, and judiciously prescribe them, when and where, and only when and where they are indicated by *Nature*; for it is neither our having, nor giving a Multitude of Medicines, that makes our Practice the most successful,

successful, but our certainly knowing the Disease, its Cause, and how and when we should assist *Nature* to carry it intirely off, and cure it; and to know when it is not in the Power of Medicines, or the Art to do that, that makes the judicious and able, as well as the successful Physician.

And notwithstanding that the late learned Members of our *College of Physicians*, as well as those of some other Countries, did some Years since considerably *reform* their *Dispensatories*, yet it is humbly apprehended, that they may be still farther *reformed*, as they yet retain several *Plants*, and some *Drugs*, as well as several *chemical Preparations*, whose Operations and Effects are so weak and uncertain (especially where we have others of the same Nature, which are more certain) and more efficacious; and there are others, whose Virtues are more imaginary than real, and some that are mere Insignificants; likewise some *Galenical Compositions*, which are compounded of such a Multitude of different Ingredients, and by reason of the *Opium* which they contain, can but be given in such small Doses, that how efficacious soever most of the other Ingredients may be, in such Doses can have no Effect.

Wherefore, if all such were exchanged, for others that are much less compounded, and of the same Nature, they would answer

swer the same Intentions as well, or much better; and if all those, who are so weak and uncertain, together with the whole Tribe of Insignificants, were intirely expunged out of all the *Dispensatories*, and the Apothecaries Shops also, it would render them more concise, elegant, useful, and more beneficial to Mankind; as the retaining all such imaginary, weak, uncertain, and insignificant Medicines there, only serve to unnecessarily Burden the Memory of the young Physician, and to give the Apothecaries the Trouble of procuring and preparing them; and when so prepared, only serve to load the weak Stomachs of the Sick; or what is worse, when too many of those Insignificants are contained in a Composition, or introduced into a Prescription, they diminish the Dose, and so lessen or hinder the Operation and good Effects of those Medicines, or Ingredients, which are more efficacious; or if those Insignificants are given alone, they must fail in producing those desired Effects, when more efficacious Medicines would answer the Intention, and carry off the Disease: And as it was the Custom and Fashion, formerly, for both the chemical and botanical Physicians to extol and say too many extravagant fine Things on the Virtues of those insignificant weak Plants, Drugs, and Medicines, which they wrote upon; and as they are still re-
tained

tained in some Dispensatories, that Authority too often has induced not only the Young, but some other Physicians, to take them into their Prescriptions: Hence we sometimes see not only so many contradictory Ingredients, but too often so many of those Insignificants contained in a Prescription, that if *Hippocrates*, or *Æsculapius* himself, were to see it, they could not tell what Disease it was intended for.

And it is well known, that the more able, experienced, and judicious Physicians, neither depend upon, nor even prescribe those Insignificants; therefore I can see no Reason why they should not be expunged out of our Dispensatories, and the Practice also.

And as we are upon this Subject, it may not be improper to make a few more Remarks upon the fashionable Method of giving several valuable Medicines in trifling small Doses: It was the usual Custom to give that efficacious Medicine *Musk*, in such insignificant Quantities, that except in its Smell, it could have little or no Effect, as in *Dr. Fuller's Julep. Moschat.* till the *Chinese* Method of giving it in the Quantity of a *Scruple* taught us better; and the same may be said of several other efficacious Medicines; as, *Sal. Succini, Camphor, Castor, Borax*, &c. and several of the medicinal *Salts*. How frequently do we see these prescribed in such trifling insignificant Doses, that

that they can have little or no Effect; yet we see, that when they are given in sufficient Quantities, they are found to be very valuable and efficacious Medicines, when they are judiciously and properly adapted to the Disease and its Cause.

The little Effect which they have, when so given, has induced some Physicians to suppose, that most of the medicinal Salts are of little or no Service in the Cure of most of the Diseases, for which they are prescribed; and no wonder, as they are usually given in such trifling Doses, that they can have little or no Effect; what can we expect from six, eight, ten, or twenty Grains of Sal Nitre, being mixed with the whole Mass of Blood, which is more than 40 Pounds, when it is in a violent inflammatory fizy State, unless we expect Miracles? That all Salts, and most saline Medicines, do more effectually dissolve in an aqueous Fluid, than any other Medicines do, is evident; and that they pass less changed in their Nature into the Mass of Blood, or Fluids, (except such as stimulate the Primæ Viæ, and produce a Vomiting, or Purging; as, *Sal Vitrioli, Vitriol Alb. Cath. Glaub. &c.*) and produce their proper Effects upon the Fluids more certainly and effectually than most, if not any other Medicines that we have do; and they even pass off again less changed in their Nature,
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by *Urine, Saliva, and Sweat*, than the others are; and they produce their proper Effects upon the Fluids, when properly adapted to the Cure of the Disease, more effectually than most other alterative Medicines do. And we find, both by Reason and Experience, that *purified Nitre*, and *purified Crude Salt Ammoniac*, are the most powerful *antiphlogistick Medicines* that we have, when properly given in suitable Quantities, and are more cooling than any other Medicines in inflammatory Diseases, and at the same time attenuate the viscid fizy Blood more effectually; Ice may be formed or generated with them, and *Spirit of Nitre* in Summer; and *Crude Sal Ammon.* will sooner attenuate and dissolve the inflammatory fizy Buff-like Pellicle, which is frequently seen on the Surface of the extracted Blood, in inflammatory Diseases, than either *Sal vel Spir. C. C. vel Spir. Sal. Ammoniac Vol.* will; and these last heat much, and often increase the Inflammation, especially in the Beginning of those Diseases; though they are sometimes necessary in the latter End of them, when the Patient and his Pulse are rather too low.

Dr. Sydenham sometimes gave the *Sal prunel.* to the Quantity of a ʒi for a Dose; and I have given as much of it with *Crude Sal Ammon. pur. gr. xii. or gr. xv.* in a Draught of *Decoct. pectoral.* every Hour,
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the first eight Hours, and every two Hours for 24 Hours after; and thereby (and by taking away ℥xxiv of Blood at once) have taken off and cured a violent inflammatory Pleurisy, in the Space of 36 Hours.

Hunger is a Disease that is certainly fatal, and an Ounce of Meat and Bread a Day will not cure it, but a Pound, repeated at proper times, will cure it.

Musk, Camphor, Sal Succini Vol. Castor, Borax, Crude Sal Ammoniac, and Myrrh, are all very valuable and efficacious Medicines, when rightly timed, and given in proper Quantities: The five first are usually given from *gr. ii.* to *gr. vi.* and little or no Effect is produced by, or can be expected from them; yet any of them may be given, when properly adapted to the Disease, to the Quantity of a Scruple, and some of them to more than that. I was called to a young Woman, who had taken *Catharid. pulv.* ℥ii three or four Hours before I got there; I gave her some *Ol. Olivar.* with a strong *Decoct. of Fol. Altheæ*, mixed with Milk, with which she vomited three or four times; and as a desperate Case must have a strong Remedy, I gave her *Camphor pulv.* ℥i *Cons. Cynosb.* *q. s. m.* and increased the Quantity of the *Camph.* to ℥ii ; at first every three, and then every six Hours, till she had taken three Doses of the first, and four of the last; she drank the above De-

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coction with it, and frequently in the Intervals, and perfectly recovered. *Sal Succini* is usually given from *gr. ii.* to *gr. vii.* which can have little or no Effect, but its disagreeable Taste; but when given from a *ʒi* to *ʒii.* is a pretty good Diuretick; and *Borax* given to the Quantity of a *ʒi* is an Emenagogue; and so is *Castor*, and an *Antihysterick*; and *Myrrh* is a Sovereign *Antiseptick*, and an excellent *Balsamick*, and by these Means heals most internal Ulcers: It is also called an *Emenagogue*.

There are several other Medicines, which are not to be esteemed Insignificants, but are rendered so, by being given in such a compounded Manner, with those that are so, or are given in such small Doses, as to be rendered so.

Every able Physician will easily see, that I do not, in any of these, intend to comprehend any of the more powerful and more active Medicines, whose Doses are very well known; such as *Mercury*, *Antimony*, and the several *Preparations* from them; also most of the *Emeticks*, *Catharticks*, *Opiates*, *Sudorificks*, and some others, whose Doses are ascertained, and very well known to Physicians; both when they intend them to operate more briskly, and when to act more slowly, as Alteratives; as it is well known, that several of those more active Medicines, when they are given in small
Doses,

Doses, are found to be the most powerful, and the most efficacious Alteratives, that we have in all our *Materia Medica*; as the *Mercurius Calcinatus*, and the *Vinum Antimoniale*, justly claim the first Rank, with which several extraordinary Cures have been performed: The *Sulphur Præcipitat. Antimon.* in small Doses, is a very good Alterative also; and we have several others, which probably are as well known to Physicians, and I have not Room to mention, as this is spun out to a greater Length than I first intended it.

However I must here add a few short Hints, that they may be further explained by some other Hand; and they may be sufficient to the Learned and Judicious: The whole Tribe of the *Testacea*, of which so many Hundred Weights are annually used in *England*, both in *Fevers*, and as *Alteratives*, will be found, upon a rational and strict Inquiry, only fit to be placed among the Insignificantants; except to correct the *Acidity* in the *Primæ Viæ* in Children, and in those who have delicate, lax, weak Constitutions like theirs, and from their alkalescent Nature forwarding and assisting Digestion in them, by their putrescent Diathesis; and will not answer both those Intentions effectually, unless they be taken in large, or often repeated Quantities, and then are liable to be converted and formed

with the Assistance of the Mucus Matter of the Stomach, into Stones, and lodged there; as may be seen in a Case related in the *Philos. Transactions* ^a. And the learned Dr. *Fred. Hoffman* has now furnished us with a Medicine, which is every Way much preferable in that Case, *viz.* the *Magnesia Alba*, which first corrects and destroys the *Acidity*, and then carries it off by Stool; and as it does so, we see some ignorantly prescribe it as a Cathartick, or Laxative in other Cases, not knowing that it only acts as such, where an *Acidity* is predominant in the *Primæ Viæ*; as I have found it to do, from more than twenty Years Experience.

And if we examine the Reasonableness and Fitness of the *Pulv. Contrayerva*, which is probably the best of the *Testacea*, if any of them are of any Use, and of which such great Quantities are daily used in this Nation, what great Things can be reasonably expected from six or eight Grains of the Contrayerva dried Root, which has been kept two or three, or more Years in the Shops, and is at best no better, if so good an *Alexipharmick* as the *Rad. Angel.* well cured is; and the *Testacea* in it will do little or nothing, if kind and beneficent *Nature* did not do all: We may be more certain, that a proper Dose of a light Infusion of the *Rad. Angel.* with a little *Crocus*,
or

^a *Phil. Trans. Abridg. Vol. 9. p. 171.*

or sometimes a little *Rad. Serpent. Virg. pro re nata*, given when indicated, and where a warming *Alexipharmick* is required, will be much more efficacious; and as much may be said of several other Medicines, now much in Use.

Much has been said in Praise of the *Cort. Peruviana* in scrophulous Cases ^b; and it is much wished, that those ingenious Physicians had more accurately distinguished, and more clearly described, the Circumstances, Constitutions, Symptoms, and the true Indications, when and where the *Cortex* should be so given, and where it will be successful; as well as wherein, and when it must fail, and be more prejudicial than useful. We observe that the *Scrophula* is a Disease which principally affects the *Glands*, and most commonly those of the larger and conglomerate Kind; and we may observe, that the Coats of the Arteries and Veins generally are very thin, tender, lax, and weak in most, if not all *scrophulous Patients*; hence their Complexions are usually more florid, and their sanguiferous Vessels more easily dilate, or burst, and they more subject to Hæmoptoens, and other Hæmorrhages; and their Vessels, which form the conglomerate Glands, and are so much complicated, being lax and weak, are more liable to be obstructed, as we see they ge-

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^b Medical Observat. Vol. 2.

nerally are in that Disease: Hence we see, that the Cause of the Disease is chiefly in the tender, lax, weak State of the Solids, and not first in the Fluids, as in some other Diseases: Wherefore the *Cortex Peruviana*, which contracts, braces, and corroborates those tender weak Vessels, and gives a brisker Motion to the Fluids, and so prevents, or probably removes some incipient small Obstructions, and beginning Tumours, if not attended with Inflammation, or Obstructions too great, is both a proper, and an efficacious Remedy; but where the Obstructions are considerably great, and the Tumours large and hard, or the Glands are ulcerated, the *Cortex* is so far from removing them, that it rather renders them irremoveable, if they were not so before, and hastens on their Suppuration: In which Case the *Cortex* should by no means be given, till after the Obstructions are first clearly removed; because so giving it, frequently produces irremoveable Obstructions, as the judicious *Boerhaave* justly observes: This I have sometimes known to be effected, by giving the *Mercurius Calcinatus*, or *Crude Mercury*, in small Quantities, for a considerable time, and the *Cortex* for as long a time after: But I must confess, that in this Case, as also in those Tumours which we often see in Womens Breasts (and too often end in Cancers)

cers) if they are not become perfectly scirrhous, are the most effectually removed and carried off by drinking Sea-Water, so as to purge briskly for two or three Weeks, if they can well bear it, till the Tumours subside, and the Obstructions are removed; after which, taking the *Bark* for a suitable time, restores the Tone of the Vessels, and effects a very extraordinary Cure, when they are thus judiciously administred.

But when we see them thus given, and perform such great Cures, let us not therefore conclude, that either the *Sea-Water*, or the *Bark*, will infallibly cure all Patients whatever that are afflicted with that Disease; much less that they will cure almost every other Disease that is less violent, and then become so fond of them, as to give them, in an empirical Manner, almost in every Disorder, and so render them so fashionable, that they are taken for every Complaint, till they are condemned as being good for nothing, because they will not cure every thing, as is now too much the Custom; but let us prescribe them when, and only when they are truly indicated by *Nature* and just Reasoning.

There are several other medicinal Drugs, which are endowed with considerable great healing Virtues, which are well known to observing judicious Physicians, which might be mentioned here; but I shall only men-

tion the following, whose Virtues probably are not so generally known, lest it should be thought that I take too much upon me to dictate to others, what they probably know already, as they have the same Means of Observing, Reasoning, and Experiencing as myself, if they will take the same Methods and Labour, to make such Observations, &c.

It was by Observing, Reasoning, and Experience, that I found *Myrrh*, (which has always been esteemed an Emenagogue internally, and a cleansing Digestive, and healing Medicine externally) to be not only one of the most powerful *Antisepticks*, but also the most *efficacious balsamic healing Medicine* in the Cure of most *internal Ulcers*, either in the Lungs, as in a *Hæmoptoen*, a *Vomica*, or *Phthisis*, or in *Ulcers* in any other internal Part of the Body, that are curable, if it be given in sufficient Quantities, that we have in the *Materia Medica*: And as it may be all (except a small resinous Part of it) easily dissolved in most aqueous Fluids, it may be so given in such sufficient Quantities as are necessary; and it may, with other Ingredients, be rendered not disagreeable, or may be either joined with some other *acid Antisepticks*, or with more or less cooling *Antiphlogisticks*, or with gentle warming Medicines; and a Milk, or other suitable Diet, as the Case may require;

quire: And by so giving it, several extraordinary Cures have been performed, which induces me to mention it here; as all Things that are either more or less useful to Mankind should be made publick, and neither be kept as a *Secret*, or a *Nostrum*, nor administered in an *Empirical* manner, as some have attempted to do with this, upon seeing its good Effects. Thus the best Medicines sometimes become fashionable, and are improperly given, and so become hurtful, and are condemned, which is not the Way to improve medical Knowledge. What has Fashion to do with Medicine? Physicians should be directed and governed by clear and true Reason, and the Fitness of Things; not Fashion, which should have no Place in the medical Art: But such is the Taste of this effeminate luxurious trifling Age, that Fashion (not Reason) must ridiculously governs in all Things, and must be introduced into the Sciences also: Thus because Purging with *Sea-Water*, is found to be efficacious in two or three extraordinary Cases, it must be good in many, or in all Cases; and because *Magnesia Alba* is a successful Medicine in one Case, it must therefore be given in several other Cases, where it is not indicated; and because the *Peruvian Bark* is an efficacious Medicine in curing intermitting, and some remitting Fevers, and also in some chronical Diseases,

which

which proceed from a relaxed weak State of the Solids ; therefore it must be given almost in every Case : And the same may be said of several other valuable and efficacious Medicines. So likewise because drinking some medicated *mineral Waters* have been found to be successful in curing some particular chronical Diseases, it is become a fashionable Thing to resort to, and drink them in almost all chronical Diseases ; and as they are in *fashion*, they needs must be good in all, though they proceed from direct opposite Causes ; and consequently they produce some bad Effects in some ; therefore they are condemned as being injurious, or good for nothing, because they will not cure all Diseases, when the Fault is in their drinking them improperly, when they are not suitable for them.

When the *Bristol Waters* are proper, the *Bath Waters* are most commonly prejudicial ; and where the *Bath Waters* are proper, the *Bristol Waters* are of no Service ; and when the *Cheltenham*, or *Scarborough Waters* are necessary, neither of the others will be suitable ; and the *Lyncomb Waters* have cured several Persons, when the *Bath Waters* would not, as it is more strongly impregnated with a subtile, volatile, chalybeate Principle, which corroborates the Solids much more : And the same is true in respect to several other mineral Waters.

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For when they have been injudiciously taken, because they are in fashion or vogue, and were not truly indicated to be given by *Nature*, and known to be fitly adapted to cure the Disease, by just Reasoning, they have each of them proved to be injurious, instead of being useful, and have been condemned as being good for nothing, because they cannot cure all Diseases. And the same Fate has happened to some of our best and most efficacious *Medicines*, when the true Fault has been in prescribing or taking them.

Thus the *Bark* was condemned, and very near being quite exploded out of all *Practice*, in Dr. Sydenham's time, if that able and judicious *Physician* had not restored its proper Use, and taught other Physicians, both when it was injurious, and when serviceable, and the right Method of using and prescribing it.

The great *Hippocrates* tells us, that *Contraria Contrariis medentur*; and it is most certainly true: Therefore it is not only necessary to truly know the Nature, Properties, and Virtues of Medicines, but it is as absolutely necessary to truly know the Nature, Cause, Manner of Production, and the Disposition of the Disease, in order that we may properly and fitly apply the *Contraria* to the *Contrariis*: And it is no less necessary to know the Methods and Means which

which *Nature* indicates, and the Ways *ſhe* attempts to carry off and cure the Disease by, in order that we may know both how and when we ſhould aſſiſt *her* in the moſt proper and effectual Manner to carry off and cure that Disease.

And as it appears, from what we have ſaid before, that the Knowledge of the Nature and Virtues of Medicines, can only be obtained by accurate Observations and Experience, or from Authors of Veracity, who had obtained that Knowledge by the ſame Means: So it alſo appears, that all the true Knowledge of Diſeaſes, their Cauſes, the Manner of their being produced, and their different Natures and Diſpoſitions, always have been, and only can be certainly inveſtigated and truly known, by accurate Obſervations on the Changes of the Air, and the Seasons, and upon all Diſeaſes, and their Symptoms, which accompany, or follow thoſe Changes: Thus we may know Diſeaſes, and inveſtigate their Cauſes, and the Manner of the Production of all their Symptoms and Effects, by the Aſſiſtance of juſt *inductive mechanical Reaſoning*, agreeably to the *Hydraulick Laws of the Circulation of our Fluids*, and the *Laws of Motion of Matter and of Fire*: And then by as accurately obſerving all the Motions, Endeavours, and Indications of *Nature*, to carry off and cure thoſe Diſeaſes; and by obſerving

serving by what *critical Evacuations* she does at last cast off the *morbid Matter* which caused them, and so restores Health, we may, by the same Method of Reasoning, both know the Methods and Means which we should use, to assist *Nature* to produce those salutiferous Effects, if we avoid all *hypothetical Reasoning*: And by thus observing, following, and assisting *Nature*, agreeably to her Indications, our Practice will always be both more satisfactory and successful. For although *Nature* does not act as an intelligent Being, yet so most wisely and wonderfully is the human Body formed, that whenever any noxious Matter is got into it, that would be injurious or destructive to it, we may observe that it so irritates, stimulates, and offends *Nature*, that *she* always exerts *her* Power, or the *Vis Vitæ*, and acts with great Regularity, Order, and Uniformity, in *her* endeavouring to cast that offending Matter out of the Body, and thereby in carrying off the Disease, and so restoring Health, and preserving Life.

And seeing that in thus observing, investigating, and truly knowing Diseases, and their Causes; and from thence, by just Reasoning and Observing, knowing how and when to assist *Nature*, according to *her* Indications and Endeavours, is contained the chief Part of medical Knowledge, and the

the true scientifick Principles of the medical Art. Let us therefore, for the Love of Truth, and the Desire of doing Good to Mankind, diligently pursue these Methods, and endeavour to improve them every Way still further; as they are the only Methods by which all true medicinal Knowledge has been obtained, and the only Means by which the medical Art has been improved in all Ages. And let us as carefully avoid falling into the Method of forming imaginary Hypotheses, and Reasoning from any supposititious and false Data, either in our *Theory*, or in our *Practice*; seeing that doing so, has not only led many ingenious and learned Physicians into various Errors and Mistakes, but has diverted them from pursuing those Methods by which they might have further improved medical Knowledge: And let us carefully apply our inductive mechanical Reasoning when and where, and only when and where we can apply it to certain and true Data, obtained by accurate Observations and clear Experiments, founded upon certain and well known Facts, both in our *Theory* and *Practice*; and not vainly attempt to account for and explain the Operations and Effects of Medicines, by Reasoning from the supposed Figures, Structure, and Size, or Cohesion of the constituent elementary Particles of different Medicines, as some have vainly attempted
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to do, but always without Success, since we neither do, nor can know that by those Means; because the Operation and Effects of Medicines, can be only truly known by Observation and Experience; therefore such Reasoning should have no Place in our Practice, though it has when and how to apply such Medicines, whose Effects are known.

Therefore let us diligently apply accurate Observations, judicious Experiments, and just inductive mechanical Reasoning, founded on real Facts, in investigating the true Causes of Diseases, and the Manner of their being produced; also in observing *Nature*, and *her* Indications, and learn of *her*, to know by *just Reasoning*, when and how we may and should assist *her* to carry off and cure Diseases: And thus we may reasonably hope to further improve both the *Theory* and *Practice of Physick*, and so render the *Art* more successful, and the *Science* more beneficial to Mankind.

SECT.

S E C T. VI.

Some Remarks on the ACTION of FIRE, in and upon the human Body, as it is concerned both in producing and in curing various Diseases.

AS I have had an Occasion to mention the *Laws of Motion of Fire* more than once in this Treatise; and as *its Laws*, and manner of *acting*, are in general but little known, even by the Learned, I shall endeavour to explain them here, that they may be more generally known, and applied to the *Theory of Physick*.

Some Observations and Experiments, which I made near thirty Years since, upon that subtile Being which we call FIRE, and the many extraordinary Effects which it frequently produces, both in human, animal, and all other Bodies, induced me then to examine and inquire further into the *Nature, Properties, Laws of Motion*, and the Manner of *Fire's acting*: By those Inquiries it soon appeared, that *Fire* had a much greater Effect, and a greater Share of Action, both in preserving and continuing all animal Life, as well as in producing, and in the Method of curing most Diseases, especially Fevers, than was generally apprehended: Wherefore a true Knowledge
of

of its *Laws of Motion*, and manner of *acting*, seemed to be of so great Importance, in the Preservation of Health, and in the *Cure of Diseases*, that it induced me then to inquire further by the means of various Observations and Experiments, what its true *Laws of Motion* and manner of *acting* really are. And having, with much Labour, discovered those its peculiar *Laws*, and manner of *acting*, before I left *England*, I endeavoured to apply them in investigating the Causes and Manner of the Production, as well as in the Methods of *curing Diseases*, especially *Fevers*, as it enabled me both to account for the Causes, and the Methods of curing them, with more Satisfaction, and I think I may say with more Success, in my Practice also: This, upon my Return, induced me to lay before the Honourable *Royal Society*, an Account of those its *Laws of Motion*, and *peculiar Manner of acting*, in a short Method; which, at the Request of some of my Friends, I published in the Year 1759^a, with some Additions, in order to shew its Modes of acting on all Bodies, in all Parts of Space.

As the Account of its Manner of acting on the human Body, is so short in that *Treatise*, and the Knowledge of its *Laws of Motion*

^a The Nature, Properties, and Laws of Motion of Fire, demonstrated by Exper. Printed by Davis and Reymers.

Motion are of such Importance ; because the Action of *Fire* is so absolutely necessary to the regular performing the Action of *Digestion*, the Formation of the *Chile*, the converting it into *Blood*, and to the carrying on and continuing its *Circulation*, as well as to continue all the *Secretions* of the animal Fluids, and the due Performance of all the Functions of *Life* ; but also both in the Manner of the Production of *Fevers*, and in the Method of curing them. And as those *Laws of Motion of Fire*, and its *peculiar Modes of acting*, are so uncommon, and so little known, I shall endeavour to explain them here with as much Clearness and Brevity as the Nature of such a subtile and mysterious Subject will admit of ; in doing which, I shall endeavour to avoid all Suppositions and Hypotheses, as much as possible, being sensible that they only serve to lead us into Errors and Mistakes.

Having already demonstrated, in the above-mentioned small *Treatise*^b, that “ *Fire* “ *is a Body composed of the smallest elementary* “ *Particles of all Matter ; and that it pene-* “ *trates, pervades, rarifies, expands, and* “ *divides the ultimate Elements of all other* “ *Bodies whatever, both Solids and Fluids,* “ *yet known* ^c.”

As

^b Idem, Prop. 2d and 3d.

^c Idem, Prop. 4. p. 18.

As the Truth of these has been clearly and fully demonstrated before^d, by careful and accurate Experiments, it is not necessary to repeat them here.

The first Law of Motion is, "*Fire is attracted and collected by the Motion and Attrition of all other Bodies.*"

Law 2d is, "*The elementary Particles of Fire are in a constant State of Repulsion from each other; and the nearer they are brought to Contact, the greater is their repulsive Force from each other, till they obtain a State of Equilibrium and Rest.*"

Law 3d is, "*Fire is put in Motion in parallel right Lines, by Light emitted from the Sun, and caused to move with Force, and produce Heat and more Light.*"

The Truth of these three Laws of Motion of Fire, (however singular they may appear to be) I have endeavoured to demonstrate, in the same Treatise; and that all the Motions, Actions, and Effects, which are produced by Fire, (it is apprehended,) may be clearly accounted for, and explained by these three Laws of Motion.

That Fire is a Body which penetrates, pervades, and divides the ultimate component elementary Particles of all other Bodies, may be proved by several Experiments; and that it does penetrate, pervade, and expand every Part of the human Body,

Idem Ibid. E c 2 either

either in a greater or less Degree, at all times, may be demonstrated by the same Experiments; and produces that Sensation which we call *Warmth* and *Heat*, in proportion to the Quantity of *Fire*, and its Quantity of Motion in the Body, may be demonstrated by various Experiments; and is further confirmed, by observing the different Degrees of Warmness, or *Heat*, which are obtained, either by sitting near a common Fire, or by different Degrees of Motion and Exercise of our Bodies, or the increased Motion of our circulating Fluids, as in a *Fever*; and this Heat is always greater or less, in proportion to the Quantity of *Fire*, and its Quantity of Motion, which produces that Sensation which we call Heat in our Bodies by its Action on our Nerves; for the Heat does not exist in the *Fire*, but our Sense of it in our Bodies. And that Sensation which we call *Cold*, or *Coldness*, which the Ingenious and Hon. Mr. Boyle supposed to be a real Body, is found to be only a Negative of *Heat*, or the Absence of *Fire*.

As it has been proved, that the Quantity of *Fire*, collected by Bodies in Motion, is always as the Quantity Motion and Attrition of the constituent Parts of the Bodies moved conjunctly; therefore the Quantity of *Fire*, which is continually collected by the Motion and Attrition between the circulating Fluids, and their containing Solids, will always

always be as the Quantity of Motion and Attrition between the Solids and Fluids conjunctly, in any Person, at any given Time. And the Degree of Heat in that Person, will always be as the Quantity of *Fire collected*; and the Heat of each Part of the Body, will be as the Quantity of Motion and Attrition in that Part; and that is as the Quantity of *Fire collected* in it.

Although neither the *Ancients* nor *Moderns* had discovered the *Laws of Motion of Fire*, yet the *Ancients* had discovered by Observation and Experience, that Motion generated *Heat*, and from thence *Omnis Calor a Motu*, became a common Saying; but they neither did know that *Fire* was collected by Motion, nor that that animal Heat was produced or caused by *Fire*. But we shall endeavour to make it appear, that not only all *animal Heat*, but all *Heat* in all Bodies whatever, all proceeds only from FIRE, and even what the *Ancients* called θερμὸν ἐμφύλον, *Calidum Innatum*, all solely proceeds from *Fire*; for although it is born with us, yet it is *Fire*, which was collected by the Motion and Attrition of our Mother's Fluids, out of the common or universal *Mass of Fire*, and was first communicated from her to the Fœtus; and was after collected by the Motion of its Fluids; and is really *pure elementary Fire*, which by

its Motion produces that Sensation which we call *Heat*.

That this *pure elementary Fire*, which exists in every Part of Space, and does penetrate and pervade all other Bodies, and is collected by the Motion and Attrition of our circulating Fluids, and puts their constituent Elements in Motion, and thereby produces Warmness and Heat in them, may be demonstrated by various Experiments; and that all the *Heat* in all animal Bodies, is produced by the Motion and Attrition of their Solids and Fluids, which collects this *pure Fire*, and it produces the Heat; as Heat is only the sensible Effects which Fire produces in our Bodies, which is perceived by our Senses.

And that this *pure Fire* does continually penetrate, pervade, or pass into, and again out of our Bodies, at all times, so long as we continue to move, act, and live, may be demonstrated several Ways; as, let two Men, who are the same Weight, Bulk, and of the same Degree of Heat, go into a large Area, in a cold clear Night; let one of them sit still in it, whilst the other runs swiftly round that Area, half an Hour, or longer, at the End of which time he that runs will be very warm or hot, and he who sat still will be very cold, though they were both equally exposed to the same cold Air all that time; and the only Difference between

tween them, was *Motion* in one, and relative not perfect Rest in the other. He who run, by moving his Legs, Arms, and Body, put his Blood thereby into a quicker Motion than it was before, or than the other Man's Blood is in ; and this increased Motion of his Blood, brings it sooner to his Heart again, which, with the Assistance of the Stimulus which *Fire* gives to the sensible nervous Fibres of the Heart, causes it to contract itself sooner and more strongly, and thereby sends the Blood sooner from and to the Heart again ; and the Exercise being continued, the Motion of the Blood, the Action of the Vessels, and of the Fire upon it and them, are continually increased, and that increased *Motion* and *Attrition* continually collects more *Fire* into the Body, and causes and increases that *Heat* ; because nothing but this *pure Fire*, which is so collected by that *Motion*, is added to his Body, more than what is added to the other Man's Body, who is so cold, as they are both in the same Area, and breathe the same Air ; the only Difference between them, was the Quantity of *Motion* greater in the one than was in the other, which caused a greater *Attrition*, and collected more *Fire*, and that caused a greater *Stimulation* and *Heat*.

And this *Fire* or *Heat* is much sooner collected in a warm Place, in a warm Day, when the Sun shines bright, because more

Fire is brought to and exists in that Place, as it is put in *Motion* by the *Light* emitted from the *Sun*, and is caused to move with greater Velocity, and to act with greater Force, by Law 3d.

Let the Man thus heated by violent Exercise, to the highest Degree that it can in that time be well brought to, sit still in that cool Area, and the *Fire*, which was so collected into his Body, by that Motion before, will gradually pass off, and escape out of his Body, by the repulsive Power of *Fire*, Law 2d, in proportion as the *Motion* and *Attrition* of his circulating Fluids decreases, till he becomes as cool as he was before he began the Exercise; i. e. till the collecting Power of *Fire*, by the Motion and Attrition of the circulating Fluids, Law the 1st, becomes equal to the repulsive Power, Law 2d; and then he will continue to be of the same Temperature of *Heat*, as in a State of Health, or as he was before.

Or let us suppose that when he is so hot, that all the internal Motion of his Solids and Fluids intirely ceases at once, for a given time; then the *Fire*, which was before collected by the increased Motion and Attrition of the circulating Fluids, will all escape out of his Body again by its repulsive Power, Law 2d, and the Fluids will cohere, coagulate, or concrets and stagnate, from the Want of that *Fire*, and its stimulating,

lating, expanding, and attenuating Power, and the Want of that continual Motion, by which that Fire was continually collected, and he will die; and all that Fire and Heat which was collected before by that great Motion, will soon escape out of his Body, by its repulsive Power, till his Body is become as cold as the circumambient Air. And all the Fire, which so escapes out of his Body, will by its repulsive Power restore itself to the universal common Mass of Fire, from which it was before collected, and will return to its State of Equilibrium and Rest, and will so remain, till it is acted on, and put in Motion again, either by the Motion of some other Bodies, or by the Motion of Light emitted from the Sun, Law 3d.

That this is not a *hypothetical Notion*, but a true State of the *Motions of Fire*, and the Manner or Means by which it does really *act* on the human Body; and that by its so acting according to its *peculiar Laws of Motion*, it is the true Cause of all the *Heat or Warmness* which is in all *animal Bodies* (and in all other Bodies) may be clearly demonstrated by several other Experiments; but as what I have already said (as well as in another Place ^h) appears to me to be sufficient to convince every attentive intelligent Reader of the Truth of this; wherefore I shall here only treat on *Fire*, as it acts upon the

^h In the Treatise on the Laws of Motion of Fire.

the human Body, as it is the Means of preserving and continuing Life; and how it is concerned both in producing, and in the Methods of curing Diseases, and restoring Health; or in procuring the final Dissolution of the Body by Death.

That FIRE is thus employed, and is greatly concerned, as a very material *Agent*, in the Production of all *Fevers*, how different soever their *procatarctick Causes* may be, will appear from the following Observations. Whether those *Fevers* arise from *infectious* and *contagious Miasmata*, or from a *viscid sisy inflamed Blood*, obstructing the small capillary Vessels, and irritating the strong elastick Solids by their Motion, and the Stimulus of the *Fire*, or from any other acrimonious Matter that is conveyed into the circulating Fluids, which increases the Stimulus of the *Fire*, and irritates the sensible nervous Coats or Membranes of the Heart and Arteries, or other Parts which they come in contact with, and thereby cause them to contract themselves more frequently and more strongly, and so increases the *Motion* of the circulating Fluids, and the *Attrition* between them and their containing Solids; and that increased *Motion and Attrition* continually *collects* more *Fire*, and so causes a greater *Heat*, or *high Fever*. That this Stimulus and Irritation, &c. is neither *hypothetical* nor imaginary, but

but is a real *Fact*, will more evidently appear, if we observe, that the infectious *Miasmata*, which produces some *Fevers*, soon after its first Reception, and whilst it is yet in the Stomach and Intestines, often irritates their sensible nervous Coats, and thereby produces a *Vomiting* and *Purging*, sometimes before the *Miasmata* are passed into the circulating Fluids; (and *Nature* thereby indicates to us how we should assist her, by encouraging those Evacuations at that time, by a small Dose of *Vini Ipocacuan.* or *Rhabarbari*, or both, which often much abates the Violence, and all the Symptoms of the Fever after, as I have often observed with great Satisfaction;†) consequently when the *Miasmata* are passed into the circulating Fluids, they there stimulate and irritate the sensible nervous Parts of the Heart, Arteries, and the other Parts of the Body which they come into contact with, and so cause them to contract themselves more frequently and strongly, and so first produce a *Rigor*, then a quick full Pulse, which causes a great *Motion* and *Attrition* between the Fluids and the Solids, and that increased *Motion* and *Attrition* collects too great a Quantity of the *Fire*, which increases the Stimulation, and so produces a great *Heat* and violent *Fever*: For when these immediate Causes are all great and violent, they must

† Observ. on the Diseases of Barbadoes, p. 77, 86, 90, 93.

must *collect* such a great Quantity of *Fire*, as must produce a *violent hot Fever*, which then too often proves to be mortal, if not timely relieved and cured.

Seeing that INFINITE WISDOM has so wonderfully and most wisely formed this *subtile pure Fire*, and endowed it with that extraordinary Property and Power of being *collected* by the *Motion* and *Attrition* of all other Bodies; (which *Motion* and *Attrition* abrades, dissipates, disperses, and destroys all other Bodies) and as this *Fire* actually is thus continually *collected* by the *Motion* and *Attrition* of our circulating Fluids, and the Re-action of our Solids: The same OMNIPOTENT BEING has most wisely so formed all animal Solids and Fluids, and has given them such an Action and Force, as fits them to *collect* such a due and adequate Quantity of this *pure Fire*, as is most suitably fitted to cause our Growth, Increase, and to continue the due Performance of all the Functions of Life, and the Preservation of all animal Beings, their appointed time, so long as we continue to act regularly, wisely, and fitly.

But inasmuch as Man, and other Creatures, are liable to Irregularities, Follies, and over violent Actions, and so to subject themselves to other Accidents, which might be frequently injurious, or destructive to our Lives, the DIVINE BEING has most
beneficently

beneficently endowed this *pure Fire* with a peculiar Power of easily penetrating and freely pervading all other Bodies whatever; and has also subjected it to, or endowed it with another *Law of Motion*, viz. its *repulsive Power*, by which it is repelled and expelled, and does continually escape and pass out of our Bodies again, with an adequate Motion, and in such a due Proportion to the Quantity of *Fire collected* by the *Motion* and *Attrition* of our Fluids, as is fit to preserve Health, and continue Life; unless where the *collective Power* is caused to exceed the *repulsive Power* in too great a Disproportion, either by our own Irregularities, or some other extraordinary Accidents, from whence *Fevers, &c.* which we shall speak of after.

But let us first inquire how FIRE acts in and upon the human Body, by the Power and Means of its *peculiar Properties*, and its *singular Laws of Motion*?

That some of the ancient Philosophers and Physicians, especially *Zaradusht*, or *Zoroaster*, *Moses*, *Heraclitus*, *Hippocrates*, *Plato*, and *Paul of Ægina*, had some extraordinary Perceptions of the Motions and Actions of this exceeding subtile Being, which they called *Fire*, and of its great Power, is certain, as appears from several short Hints and Remarks on it, which they have left us in their *Works*; although they were

were not acquainted with *its Laws of Motion*, or how it acted; and produced those its various wonderful Effects.

First, how *Fire* is concerned as an Agent, in performing and perfecting the three Digestions, *viz.* in changing the finest and most subtile Parts of our *Food* into *Chile*; secondly, in converting the *Chile* into *Blood*; and lastly, in preparing and fitting the *Blood* to secrete the *vital* and *animal Spirits*, or the *nervous Fluid*; as also in separating and applying the several nutritious Juices to the various Parts of the Body, and in fitting them to perform all the necessary Functions of Life, and in secreting and separating such Parts of the animal Fluids, as are of no further Use, and casting them out of the Body, by such Evacuations, as they are most properly adapted to be carried off by. And then let us inquire how far this *Fire* is concerned in producing Diseases, especially *Fevers*; and lastly, how *Fire*, as an active Principle, is employed by *Nature* in the Cure of Diseases, more especially *Fevers*, both by its stimulating the Solids, and by its penetrating and attenuating Power, dividing and concocting the *morbid Matter* which produces *Fevers*, and so fitting it to be cast out of the Body by some critical Evacuation.

It

It has been elsewhere ^k made to appear, that if INFINITE POWER had not so most *wisely* formed *Fire* with such extraordinary *Properties*, and endowed *it* with such a peculiar Power of penetrating, pervading, rarefying, expanding, dividing, and putting in Motion the ultimate elementary Particles of all other Bodies, that we yet know, there could have been no such thing as a *fluid* or *liquid* Body existing in Nature; for *Water*, without a due Proportion of *Fire*, being mixed with it, would be a hard solid frangible Body, like Crystal, *i. e.* Ice. And Blood, (supposing there could be such a thing without *Fire*,) would be a solid Body like a Ruby, or a Garnet; and the Case would be the same with all other Fluids, since Spirits of Wine, in the North-parts of *Tartary*, freezes, and becomes a solid Body; and Quicksilver, which will bear the greatest Degree of Cold of any Fluid, and will remain in a fluid State with the least Mixture of *Fire* with it, of any Fluid that we know; yet some late Experiments made in *Russia*, shew us that it may be so much deprived of *Fire*, as to make it become a solid malleable Body ^l. And if there are no fluid Bodies, without a Mixture of some *Fire* in them, there consequently could be no vegetable nor animal Life without *Fire*, neither any

^k Laws of Motion of Fire, p. 43.
An. 1760.

^l Philof. Transact.

any Sensation, Motion, animal Fluids, or Animals.

Seeing that there can be no Fluids without a due Proportion of *Fire*, and that DIVINE GOODNESS has so wonderfully formed *Fire*, and ordained and subjected it to be *attracted* and *collected* by the *Motion* and *Attrition* of all other Bodies, in proportion to the Quantity of that *Motion* and *Attrition*. And that *Fire* is continually *attracted* and *collected* in that Proportion, by the Motion of our circulating Fluids, and the peristaltick and internal Motions of our Bodies: This *Fire* so collected, does by its repulsive Power, and its penetrating, pervading, expanding, and dividing Properties, pass into both the solid and liquid Food, taken into the Stomach, and penetrates and divides every Particle of the Food, and so mixes them with the Fluids, by the gentle peristaltick Motion of the Stomach, and the Action of the *Fire*, which keeps the liquid Parts in such a thin attenuated fluid State, that they easily mix with and extract the nutritious Juices out of the solid Food, and by the Action of the *Fire* upon it, concoct and convert it into *Chyle*. For the peristaltick Motion of the Stomach does not grind the solid Food with that great Force, as some Authors have hypothetically imagined^m (as Birds do with the Assistance of Sand

^m Dr. Pitcairn on Digestion in his Works.

Sand in the Gizard, which supplies their Want of Teeth) but only gently mixes the solid and liquid Food together, and carries it to the Pylorus after it is digested; but the *Fire* or *Heat* performs the Work of Digestion, and forming the *Chile*.

The *Chile* being thus far prepared in the Stomach, is carried into the Intestines, where it is mixed with a due Proportion of *Bile* and the *Gastrick Juices*^a, and is there further attenuated, divided, and concocted by the Motion and Action of *Fire*, which also stimulates the Orifices of the lacteal Vessels, and excites, or increases the peristaltick Motion of the Intestines, by which the *Chile* is carried into the lacteal Vessels, and so into the Receptacle of the *Chile*, where it is mixed and diluted with the Lymph, brought thither for that Use, and is then carried by the thoracic Duct into the subclavian Vein, and mixed with the Blood.

The *Chile* being thus prepared, and mixed with the Blood, is then carried with it through the Lungs, and the whole Course of its Circulation, in which it meets with a considerable Degree of Attrition, as the Pulse is always quicker after Eating, and during the Time of Digestion; and by that increased *Motion* and *Attrition*, a considerable

^a Dr. Boerhaavii Inst. Med. Sec. 126, &c.

able Quantity of more *Fire* is collected; which *Fire* or *Heat* does, by its penetrating, attenuating, and dividing Power, more minutely attenuate, divide the constituent Particles of the *Chile*, and so concoct and perfectly transmute it into *Blood*, which is called the Second Digestion.

The Circulation of the *Blood* being still continued, the *Motion* and *Attrition* between it, and its containing Vessels, continually collects more *Fire*; and this *Fire* being as continually emitted out of the Body again, by its repulsive Power, this continued *Motion* and *Action* of the *Fire*, as it easily penetrates and pervades every minute Part of the Body, greatly contributes to attenuate and fit the *Blood*, to separate and secrete not only the finest Parts of it in the *Brain*, viz. the *vital* and *animal Spirits*, or *nervous Fluid*, but the *nutricious Juices*, the *Lymph*, and all the other animal *Secretions* and *Excretions*, and contributes greatly to the due Performance of all the *Functions of animal Life*. This is usually called the Third Digestion, and more frequently the *Vis Vitæ*, or *Work of Nature*; in all which it evidently appears, if we carefully examine and observe, that *Fire* has a very considerable Share of *Action*.

Hence we see, that *FIRE* is a Being which is continually employed by *Nature*, not only in forming and preparing all our
nutricious

nutritious Juices, and applying them to repair, restore, and preserve all the Parts of the human Body, but also in performing all the Functions of Life, and preserving Health and continuing Life in all animal Beings; although this has never been sufficiently observed and accurately inquired into, either by *Philosophers* or *Physicians*, in any Ages that are past.

Let us now inquire how FIRE is concerned and employed by *Nature*, as an active Principle and a powerful Agent, both in producing *Fevers*, and in curing them.

As it appears that *Fire* is always *attracted* and *collected* by the *Motion* and *Attrition* of all other Bodies^p; and that the Quantity of *Fire* so *collected*, is always as the Quantity of *Motion* and *Attrition* conjunctly: Therefore the Quantity of *Fire* which is *collected* by the *Motion* and *Attrition*, which is produced between the circulating Fluids, and their containing Solids, will always be as the Quantity of *Motion* and *Attrition* is. And the Truth of this is confirmed by careful Observation, and may be so by others, who will diligently and attentively observe the Quickness, Hardness, and Fullness of the *Pulse*, and take the Heat of the Patient by an accurate-made *Pyranthropometron*; and then make the same Observations on another Patient, where the Hard-

F f 2

ness

^p See Laws of Motion of Fire, Law 1st.

ness and Fulness of the Pulse are less, tho' the Quickness may be the same; since where the Pulse is hard, full, and quick, the *Attrition* is greater, and the *Motion* also; because the Momentum of a Body in Motion, is always as the Quantity of its Matter, multiplied by its Quantity of Motion; and where the Pulse is hard, the Blood is more dense, and its Attrition greater.

Thus *Nature* employs *Fire* as a Medium, or an Instrument, to excite and bring on a *Fever*, but always as a Means, or with an Intention, if I may so speak, to attenuate and carry off the offending *morbid Matter* which causes the *Fever*, out of the Body, which if not so carried off might be destructive to it.

Thus, when any *infectious Miasmata*, or contagious *morbid Matter*, is conveyed into the Blood, that offending *morbid Matter* stimulates and irritates the sensible nervous Coats of those Parts which it comes in contact with; as the Heart and Arteries; and that Stimulation causes them to contract more frequently and more strongly, which increases the Momentum of the circulating Fluids, and the *Attrition* between them and their containing Solids; and that increased *Motion* and *Attrition* continually collect more *Fire*, in proportion as they are increased; which *Fire* both increases the Stimulation, and causes the *Heat* or *Fever*:
And

And this *Fire* or *Heat*, when so collected in such a Proportion, that its Quantity or Heat is neither too great, so as to raise the Fever too high, nor too little to effect a Crisis, but in such a Quantity as is sufficient, and fit to attenuate, divide, or in *Hippocrates's* Term, *concoct* the *morbid Matter*, by its penetrating, pervading, and attenuating Power, so as to render it capable and fit to be cast out of the Body, by some of the excretory Passages, in a *critical Evacuation*, is the Method which *Nature* takes to carry off and cure *Fevers*.

And when the *morbid Matter* is thus cast out of the Body, and all Stimulation from it ceases, and the Fluids have acquired a free Passage through all the Vessels, their Motion soon becomes regular again, by which the stimulating and collecting Cause of *Fire* becomes much less than its *repulsive Power*; whereby the *Fire*, which was collected before, soon escapes out of the Body by its *repulsive Power*, and the Patient soon becomes cool, and is restored to Health again. In the like manner, in all inflammatory Fevers, whether they arise from an Obstruction of the perspiratory Vessels and Pores, by their being too suddenly contracted and obstructed by Cold, or being wet; or from some *Moleculæ* formed in the red *Globulæ* of the Blood, either by Cold, something poisonous, the Bite of a

Serpent, or any other Cause; or from an *Error loci*, by the red Globules of the Blood being carried into the *seriferous* or *lymphatick Vessels*, when heated by Exercise or otherways, when those Vessels were relaxed and dilated by that Heat, and then too suddenly contracted by Cold, or from any other Cause; whence those red Globules stagnate, distend, and obstruct a greater or less Number of those small Vessels: And the same Quantity of Blood being sent by the larger Vessels, to those Parts as before, such Part of it as used to pass through those Vessels which are now obstructed, cannot pass now; therefore a greater Quantity of it must pass through the small colateral Branches of those small Vessels, which remain permeable, and through several which did not permit red Globules to pass before, therefore they will dilate and expand them, and give acute Pain, and cause the Part to appear red and inflamed; and the Impetus of the Blood from the Heart, against the obstructing Matter in the obstructed Vessels, will increase the Pain and Inflammation, and cause a Throbbing: This Irritation and Pain will increase the *Motion* and *Attrition*, and that will *collect* more *Fire*, which will still increase the Inflammation, Heat, and Fever, and that still collect more *Fire*, till the Impetus of the Blood, and the *Fire*, by its penetrating and attenuating Power, attenuates

tenuates and dissolves the obstructing Matter, so that it is assimilated and mixed with the circulating Fluids again, and the Inflammation is thus carried off and cured by *Resolution*; and then the Fire soon escapes by virtue of *its repulsive Force*. This Method of Cure is effected, where the Number of the obstructed Vessels is not too great, and the obstructing Matter is not too hard, or too close united, but so that it may be dissolved by the Action of the Vessels and the *Fire*.

But when the obstructed Vessels are so numerous and contiguous, and the Obstructions are so great, that the Inflammation cannot be taken off by Resolution, then the increased Momentum of the Blood, and the Quantity of *Fire collected* thereby, does by its penetrating and dividing Power, so attenuate and divide the obstructing Matter and the small obstructed Vessels, as to reduce them both into that yellowish white soft Pulp; which we call Pus, or Matter, and cast it out of the Body by Suppuration; after which, the irritating Cause being removed, the *Fire* soon escapes by *its Repulsion*, and the Fluids return to their regular Motion again.

And when the Number of the obstructed Vessels, and the Obstructions are so very great, and so contiguous, that they compress each other, and can neither be resolved,

solved nor suppurated, because so few of the Vessels are permeable, that the *Motion* and *Attrition* of the Fluids is not sufficient to *collect* such a Quantity of *Fire*, as is sufficient either to attenuate and resolve, or to suppurate them, nor to remove the Obstructions; and the Momentum of the Fluids being too weak, the Obstructions are increased, till most of the Vessels become impermeable, and are totally suffocated, which is soon followed by a Gangreen or Sphacelus.

This is the Case in all Inflammations, which are either taken off by Bleeding, Antiphlogisticks, and a Resolution of the morbid Matter, or by Suppuration, or a Mortification; except in some Cases, where the Resolution is so imperfect, that the Part becomes *scirrhus*, of which there are many Instances.

As *pure Fire* is such an exceeding subtile Body, and so easily and freely penetrates and pervades all other Bodies that we yet know, and moves with such an exceeding great Velocity, and acts with such great Power, and by its penetrating and attenuating Power keeps all the animal Fluids, even the finest and most subtile of them, in a fit State of Fluidity, to pass through the most minute Vessels in the human Body; with all these peculiar and extraordinary Properties, it seems to be such a very subtile Body,

as

as is the most fitly adapted to act upon the Nerves, and their very subtile Fluid; or to be acted upon by them, or by the Will, both in producing the voluntary and involuntary Motions of the Body. But how far, or how much this *pure Fire* is actually concerned in producing either of those Motions, I shall not take upon me to say or assert, though there seems to be a great Probability that it may be employed in the one, or in both; but we want some more accurate Observations and decisive Experiments to assert either, which Time may produce; and I am not willing to advance any thing Hypothetically, or on Supposition.

Howev^r, that *Fire* is a Stimulus is certain; and that it can stimulate the sensible nervous Parts of the Body, is as certain; and that it does stimulate the sensible nervous Coats of the Heart and Arteries, and increase their Action, (whether it be the Cause of their involuntary Motion or not) appears from their increased Motion in Fevers, and more evidently in the Case of the Man using Exercise in the cold Area before-mentioned^q, where no malignant or stimulating Matter is added, but that of *Fire* only: He first, by the Action of his Will, voluntarily moves his Limbs, which propels the Blood to the Heart, which by its *Heat* or *Fire* gently stimulates the Heart
and

^q See Page 426.

and Arteries, and causes them to contract and propel the Blood to the Limbs again; and this increased *Motion* and *Attrition* collects more *Fire*, which still increases the Stimulation, and that, the Contractions of the Heart, and the Motion and Attrition and Collection of more *Fire*, and so on in this continued Circle, till the voluntary Motion of his Body (which was the first moving Cause) ceases, or is abated: Soon after which Cessation, as there was no morbid Matter, nor obstructing Cause, to increase the Stimulation, Motion, Attrition, and Collection of more *Fire*, the *repulsive Force of the Fire* soon becomes greater than its *collecting Power*, and it soon dissipates and disperses itself by its *repulsive Power* into the common *Mass of Fire*, and the circulating Fluids return to their regular Motion again, and the *Heat* of his Body is soon restored to that Degree of Heat, which is proportional to that Quantity of Motion and Collection of *Fire* by it, as in Health.

This is the *State* and *Action* of *Fire* in the Body, when the *collecting* and *repulsive* Powers are equal, as in a State of Health: as also in the Production of all *Fevers*, as described; so likewise in producing a *Crisis*, where the Quantity of *Fire* collected is neither too great, nor too little, but so much as is sufficient to *concoct* the morbid Matter, and produce a perfect *Crisis*.

But

But when the *Stimulation*, the *Motion* and *Attrition* of the Fluids, are so very great, that the *attracting* and *collecting* Power so much exceeds the *repulsive* Power, as we see sometimes happens to be the Case in some violent high Fevers, that the Quantity of *Fire* collected thereby is so great, that its *Heat* proves destructive to the Patient, before a *Crisis* can be brought on, if it be not timely abated by proper Remedies; as, in a *Causos*, and some violent *inflammatory Fevers*. In which Cases, we sometimes find the Motion of the Blood is so rapid and great, (especially when the Patient has strong elastick Solids, and the Inflammation is violent) that the *Motion* and *Attrition*, and the *Collection* of the *Fire*, and consequently the *Stimulation* and *Heat*, and Height of the *Fever*, is so great, that both the great Quantity of the *Fire*, and its quick Motion into, through, and out of the Body again, carries off some of the finest, thinnest, and most subtile Parts of our circulating Fluids with itself; viz. the *nervous Fluids* or *Spirits*, the finest Lymph, &c. whence, by the Continuation of that *Heat*, the remaining Part of the Fluids become too glutinous and thick to pass freely through the small minute Vessels; (as in a *Causos*, when the Blood taken or flowing from the Nose instantly coagulates like Seal-wax) whence the Secretion of the Spirits

is

is diminished, and the nervous Solids become too dry and inactive; and from both these Causes, the Perflux of the Fluids, in the smallest Vessels, becomes irregular and unequal, which produces a Delirium, a quick, small, tremulous, irregular, or intermitting Pulse, attended with Tremors, Catchings, Subfultus Tendinum, Spasms, and Convulsions, &c.

And from that Diminution of the *Vis Vitæ*, and the Immeability of the small Vessels, on the Surface and remote Parts of the Body, they become inactive and relaxed; whence come cold clammy Sweats, with great Coldness of those Parts, though a great Heat still remains about the vital Parts, where the quick Motion and Attrition of the Circulation of the Fluids, still continues in the larger Vessels near those Parts, till at last the Circulation ceases, and the Patient dies; and as all Motion ceases, no more *Fire* is collected; and all that was collected before, soon escapes by *its repulsive Power*, and the Body becomes cold.

Thus we may account for all the other injurious and fatal Effects of *Fire* on the human Body, when *it is collected* in too great a Quantity, by the over great and violent *Motion* and *Attrition* and *Stimulus* of the circulating Fluids, and acts with too great a Force; as in all similar Cases, in the same manner, and from the same Causes, according

according to the same Principles, and *Laws of Motion of Fire*, by which it always moves and acts.

And on the contrary, the Deficiency of *Fire*, from the Want of a stronger Stimulus, and quicker Motion and Attrition between the Solids and Fluids, whereby a sufficient Quantity of this *subtile pure Fire* is not collected, to carry on the Digestion, Chilification, and Sanguification, in a perfect complete manner, from whence various Diseases may and really do arise; as, all those Diseases which arise from a lax weak State of the Fibres^u; *Morbi a Glutinoso Spontanio*^w; *Morbi ex Defectu Circulationis*^x, &c. a *Leucophlegmatia*, *Chlorosis*, *Anasarca*, *Paralysis*^y, and some others; so likewise in some slow Fevers, where the Stimulus of the *Fire*, and the Motion and Attrition of the circulating Fluids, is too weak and languid to collect a sufficient Quantity of this *pure Fire*, to effectually attenuate and concoct the *morbid Matter*, so as to fit it to be carried off by a perfect critical Evacuation, as in some *slow nervous Fevers*, &c.

Hence the *judicious Physician* may clearly see when *Nature* indicates, and when he should administer *warming attenuating cardiac Medicines*; also when *she* indicates, and he should prescribe *Phlebotomy*, or other

Evacuations,

^u Boerhaav. Aphorif. Aph. 24, &c.

&c. ^x Idem, Aph. 106, &c.

a Palsy cured by a Fever coming upon it.

^w Idem, Aph. 69,

^y As we often see

448 *An Inquiry into the METHOD of*
Evacuations, and cooling attenuating anti-
phlogistick Medicines, as well as when they
should be more attenuating and cooling,
and when they should be less so, in the
Cure of the above-mentioned inflammatory
Diseases.

Hence we may also observe in our Practice, and clearly see that *Nature* constantly calls in the Aid and Assistance of this *pure elementary Fire*, not only in all the Motions and Actions which are performed in the human, and all other animal Bodies, as in that of *Digestion*, the making *Chyle, Blood, &c.* and in causing their Growth and Increase, and in performing all the Motions and Functions of animal Life; but also in *her* beneficent and salutiferous Ways and Methods of carrying off and curing *Diseases*, and in restoring Health, as well as in preserving and continuing Life afterwards. Seeing that without these *Motions and Actions of Fire*, according to *its own peculiar Laws of Motion*, by which it always moves and acts, and produces all *its Effects*, there could neither be any *animal Sensation, Motion, Action, or Life*, nor any such Beings as Men, or any other inferior created Animals existing, in that State and Condition in which we and they all now exist; since without FIRE, and its manner of moving and acting, according to *its peculiar Laws of Motion*, and *its* having its other *peculiar Properties*,

Properties, as before-mentioned, by which *it moves and acts*, all created animal Beings, and all material Bodies, would be one immoveable, insensible, inert, solid cold Mass of Matter, at perfect Rest: Hence we see that *Fire* is the Antagonist to the general *Law of Attraction* in all other Bodies; and without Fire, all Bodies would be one inactive immoveable Body, at rest, without Motion or Life; being strongly attracted to each other by Gravitation and Attraction, and no contrary acting Power or Antagonist to them.

Hence we also see, that neither Men, nor any other created Beings that we have any Knowledge of, could continue to exist one Moment, without the Assistance of the *Motions and Actions* of FIRE, no more than we can without the *Motions and Actions* of AIR: Neither could the *Air* produce those Effects which it does, upon the human and animal Bodies, without the Assistance of the Action of *Fire* to rarify and expand, and so render it more elastick, as well as to give it Motion.

Although this is not usually apprehended, or generally known, yet it is true: And it is also most probable, that *Air* could neither be expanded, nor contracted or condensed, without the Action of *Fire* upon it; but would most probably be a solid, condensed, fixed, immoveable cold Mass of Matter,
without

without Motion, as *Water, Spirits of Wine,* and *Mercury*, are found to be without *Fire*: But this should be confirmed by Experiments, before it is received as a certain Truth.

Notwithstanding that these necessary and extraordinary *Motions* and *Actions* of *Fire*, have been so little observed, and many of them not so much as thought of by most *Philosophers* and *Physicians*, yet they are true, and will be found by Observations and Experiments to be so; and may be rendered very useful, if properly applied, to improve the *medical Art*.

However we find, that so great was the *Penetration* of that *Father of Physick, Hippocrates*, and so accurate was *he* in all his Observations, that *he* seems to have known much more of the Nature and Actions of *Fire*, than any of his Successors did, before the great *Boerhaave*. He gave the Name of Πῦρ, *Fire*, to a *Fever*, as, Πῦρ ἔλαξε, *Ignis vehemens*. Epidem. L. 1. Æger. 6. and Ægr. 4. 2. Πῦρ ἔλαξεν, *Ignis, vel Febris vehementissima*. And says, Τὸ μὲν γὰρ πῦρ δύναται πάντα διὰ παντὸς καίνησαι, Lib. 1. de Victus Ratione. And further says, *Omnia igitur tum Animantia, tum homo ipse, ex duobus, facultate quidem diversis, usu verò consentientibus, constant, IGNE inquam et AQUA.—IGNIS siquidem omnia semper movere, AQUA verò omnia semper nutrire potest.*
—*Igni*

— *Igni suus est impetus, &c.* Ibidem,
L. I.

From these, and many other Places in his Works^a, it appears, that *he* had discovered that *Fire* put the constituent Parts of all other Bodies in Motion, and thereby was a Means, or had a considerable Share of Action in nourishing the Body, as well as in assisting to concoct the morbid Matter, in order to carry off and cure Diseases. And both what *HE* has said on *Fire*, and upon *insensible Perspiration*, have been either neglected, or overlooked by most, if not all succeeding *Physicians*; the latter till *Sanctorius* discovered its Quantity, and shewed the great Use that the Knowledge of it is of, in discovering the Causes, as well as the more rational Methods of curing Diseases, *Tollendo Causas*.

And what *he* has said on the first, viz. on *FIRE*, has been as much overlooked, and as little considered till this time; although the Knowledge of its *Properties*, and *Laws of Motion*, and its Manner of acting on the human Body, when well understood, and properly applied, may hereafter be found to be of no less Importance, in investigating the Causes, and the Manner of the Production of most *Fevers*, as well as in improving

^a See his Books on Epidem. Dif. his Aphorif. de Vi&us Ratione, et in aliis locis.

proving the Methods of curing them, tho' this may not be effected, and generally received, in my time, I question not but it will hereafter.

These Considerations, and various Observations and Experiments, which I had made upon *Fire*, and its Manner of *acting*, several Years since, together with the many extraordinary and wonderful Effects which it frequently produced, were the Motives that first induced me to inquire further into its Motions, and the Manner of its acting, by the Means of Observations and Experiments, till I had discovered its *peculiar Laws of Motion*; the learned Professor *Boerhaave* having discovered most of its singular and *peculiar Properties*, some Years before: And notwithstanding that I found many of those its *Properties*, and its *Laws of Motion*, were very different from the *Nature and Properties*, and the *Laws of Motion* of all other *Matter*; yet having obtained satisfactory Proofs of the Truth and Certainty of those *Properties*, and *Laws of Motion of Fire*, by Experiments and Demonstrations, that it did *move* and *act*, and produce all its Effects, by and agreeably to them: Wherefore it induced me to inquire further, how far *Fire* was employed and concerned in producing and performing the various Actions, Offices, and Functions of Life in the human Body, or in producing Diseases,

or

or was of Service in curing them; and accordingly several Observations, and a few Experiments, when the *Properties and Laws of Motion of Fire* were known, soon made it clearly appear, that the *Motions and Actions of Fire* have a very considerable Share, both in the Nourishing and Growth of the Body, the Preservation and Restoration of Health, and the Continuation of Life, as well as in the Manner of the Production of various Diseases, and no less so in the right Methods of curing them; since either too great, or too little a Quantity of *Fire* in the Body, must be destructive to it. And seeing that the Quantity of *Fire* collected by Bodies in Motion, is always as the Quantity of Motion and Attrition conjunctly. And the Quantity of *Fire* repulsed or emitted, will be as the Quantity collected, and the time of its being retained conjunctly; because the *repulsive Power of Fire* is increased in proportion to the Nearness of *Contact* of the *Elements of Fire*, which therefore will always be as its Quantity, in the same given Space: (but there are some Bodies which will retain more *Fire* than some others will.) And the Quantity of *Heat* generated in the Body, will always be as the Quantity of *Fire* collected and emitted, its *Momentum*, and the Times of its Retention conjunctly. Hence

arises that violent *Heat* in a *Causos*, and some inflammatory Fevers.

But the Quantity of Attrition is not always as the Quantity of Motion in all Sorts of Bodies; the Smoothness and Lubricity of the constituent Particles of some Bodies being much greater than they are in others; therefore the same Quantity of Motion will not cause the same *Attrition*, nor collect the same Quantity of *Fire*, nor generate the same Degree of *Heat*.

And we also find, that there are some Bodies which will retain *Fire* longer, and in a much greater Quantity than some other Bodies that are of the same or greater Density will^a; as Linseed-oil retains almost three times as much *Fire* as *Water* will, though it is heavier than the Oil; and that Oil retains as much *Fire* as *Mercury*, which is 15 times denser or heavier than it; the Quantity of *Fire* in the Mercury and the Oil, is as 600 to 212 in the Water; the Cause of which is not clearly demonstrated yet, but is wanted to be done.

However we find, that the Quantity of *Fire* collected, and consequently the Degree of *Heat* in Bodies, is as the Quantity of Motion and Attrition, and the Times of its Retention in Bodies conjunctly. Hence we see, that a Deficiency of *Fire* may either produce

^a See the Laws of Motion of Fire, in the Query at the End.

duce, or greatly increase some Diseases, and that too great a Quantity of it may be destructive to the Body; and in all those Diseases which proceed from a Defect of Circulation^b, or from a cold viscid pituitous Humour, a dead Palsey, a Chlorosis, an Anasarca, old Age, and some other Diseases, wherein the Circulation of the Fluids is too inert and languid, so that their *Motion* and *Attrition* will not *collect* such a Quantity of *Fire*, as is necessary to attenuate the Fluids sufficiently, in order to perform the Functions of Life perfectly and regularly; and in some *slow Fevers*, wherein the *Motion* and *Attrition* of the circulating Fluids is too languid to *collect* a sufficient Quantity of *Fire*, to attenuate and concoct the morbid Matter which causes the Fever, sufficiently, so as to fit it to be carried off by a critical Evacuation; since a Deficiency of *Fire*, and its attenuating Power, may, and too often does, either retard or hinder an effectual Resolution, or a due Concoction and Expulsion of the morbid Matter by a *Crisis*, especially if wrong treated at that Time of the Fever. And on the contrary, a too great and violent Motion of the circulating Fluids causes so great a *Motion* and *Attrition* between them and their containing Solids, as *collects* too great a Quantity

G g 3 of

^b Vide Aphorif. Dr. Boerhaavii, Aph. 24, &c. Aph. 69, &c. et Aph. 106, &c.

of *Fire*, and produces such a violent *Heat* or *Fever*, as not only may hinder the due Concoction and Expulsion of the morbid Matter, or as may prevent a perfect Resolution of it, which is too often the Case, proves destructive to the Patient sooner, if not timely prevented and relieved by a proper Treatment.

Hence we may perceive, and in some degree see, (though we are but capable of seeing a few, if any things perfectly) how wonderfully and most wisely INFINITE WISDOM has formed and given Existence to *Fire*, and so fitted and ordained, or subjected it to move and act by such *peculiar Laws of Motion*, to answer so many beneficent Ends, and such great and wise Purposes: And has no less wisely and wonderfully formed Man, and all other Animals, and given the various Parts of their Bodies such Motions and Actions, as will enable and fit them to *collect* such Quantities of that subtile *Fire*, as is necessary to carry on and perform all the Functions of Life regularly, without their knowing it; and not more than is necessary, except when and where our own Irregularities and imprudent Actions, or some Accidents cause it; And when these Causes so happen to *collect* that *Fire* in too great a Quantity in any Body, so as that it might prove to be destructive to that Body, so wisely and wonderfully

derfully has the SUPREME BEING adapted and proportioned the *repulsive Power of Fire*, to its *collecting Power*, or its *repelling and emitting Force*, to its *attracting and collecting Force*, that the one is adapted and proportioned to the other, with a most surprising Exactness, unless where some of our own Irregularities, or some other Accidents prevent it, where some of the Excretions, or the other Functions of Life are obstructed or impaired, and hindered from performing their proper Office regularly, by some heterogeneous Cause.

From hence, and what is said before, it requires no great Penetration to see, that a true Knowledge of the *Laws of Motion of Fire*, and its Manner of acting upon the human Body, may be of considerable Service, not only in investigating the Causes, and the Manner of the Production of several Diseases, but also in forming the most rational and judicious Methods of *treating and curing* them: If we do but properly and truly apply them, when and where, and only when and where they are really concerned, and are truly applicable, in our inductive Reasoning, and are sufficiently careful to carry on and always keep that Reasoning agreeably to the *Laws of Motion of Matter*, the *Circulation of our Fluids*, and the *Laws of Motion of Fire*, and as conformable to the Motions and Actions of

Nature, and those Effects which she really produces in the Body, especially in all those Diseases wherein *Fire* is considerably concerned in producing them; since that a true Knowledge of the Causes, and the Manner of the Production of Diseases, and their Symptoms, is the most material Knowledge in the *medical Art*, and is of the greatest Consequence in forming a right Method of treating and curing them.

These, and some other Considerations, induced me to publish that small *Treatise* on the *Nature, Properties, and Laws of Motion of Fire*, on my Return into England, in the Year 1759; in hopes that the Knowledge of them might not only contribute something towards the Improvement of medical Knowledge, but that they would be of Use in more satisfactorily and clearly explaining several *Phænomena of Nature*, and those extraordinary and wonderful Effects which are frequently produced by *Fire*; as also in solving some Philosophical Questions, wherein *Fire* is concerned, either as a Principle, or a material Agent.

And in order that the Knowledge of those *Laws of Motion of Fire* may be more useful, and may be applied to the Improvement of medicinal Knowledge, I have here added this further Account of the Manner in which *Fire* acts in and upon the human Body; wherein I have endeavoured to explain

plain more fully how *it acts*, according to *its own Laws*, both in performing the Work of *digesting our Food*, the forming of *Chyle*, and then converting it into Blood, and the nutritious Juices, as well as in applying them, and in performing all the other necessary Functions of Life: I have also endeavoured to explain, in a short manner, how *Fire* is concerned in producing several Diseases, especially *Fevers*, and how *Nature* employs and makes use of this *pure Fire*, in perfecting a *Crisis*, according to *her* Method of curing them; that we may by properly applying those *Laws*, be better enabled to account more satisfactorily and more clearly for the various Operations and Effects which are produced by *Nature*, by the Means and Assistance of *Fire*, and its Actions on the human Body, more especially in those Diseases wherein *Nature* employs *Fire* as a Material, or as a Principle Agent, in *her* Method of curing them: And in the same manner as I have endeavoured to apply these *Laws*, both in investigating the Causes, and in improving and obtaining a more satisfactory, and a more certain, as well as a more successful Method of curing those Diseases, for several Years past in my Practice; though I have avoided mentioning the *Laws of Motion of Fire*, as much as possible, in that Treatise, which I published on the *Diseases of Barbadoes*,

badaes, because those *Laws* were not then published, or well known. And as I have found the Method of making such Observations on *Diseases*, and the Motions of *Nature*, and the Method of Reasoning from them, according to the *Laws of Motion of Matter*, and the *Laws of Motion of Fire*, and the *Laws of Circulation of our Fluids*, were of considerable Use and Service to me, in my Endeavours to investigate and arrive at a more certain and true Knowledge of the Causes and right Methods of curing Diseases, I therefore communicate them to all those who may think proper to pursue the same Methods, at least till they can find better.

But seeing that we are, and all others may be certain, that *Fire* is a Body, which is thus continually employed by *Nature* in performing all the Functions of *Life*, and frequently both in producing and curing Diseases; the Knowledge of *its Laws of Motion*, and Manner of acting, is necessary to obtain a true Knowledge of the Causes and the Manner of the Production of various Diseases, and may be of great Service to *Physicians*, if they are properly and truly applied, (without forming *Hypotheses*) to the Improvement of *medical Knowledge*, and the Advancement of that *Science*; with which View I spent some of my leisure Hours in collecting and composing this
Treatise

Treatise on Fire, which I have now added to the preceding Inquiry, which I intended to have left behind me as a posthumous Tract, but have been prevailed upon to publish it now; and if they contain any Things which are either useful or new, which may be any way applied to the Improvement of the *healing Art*, for the *Good of Mankind*, I shall not think my Labour lost, or my Time ill-spent.

F I N I S.

The READER is desired to correct these Errors of the Press,

Page 12. line 4. read Amrou.

77. l. 18. r. Arcagathus.

For p. 311. r. 113.

143. l. penult. r. Califf.

294. l. 21. r. Eccoproticks.

326. l. 16. for but, r. and.

336. l. 1. in the Note for Horolog. r. Nosologic.

386. l. 10. for Lacea, r. Lacca.

431. l. 24. dele, after Zaradusht

T H E I N D E X.

A.	
A	ARON of <i>Alexandria</i> , the first Author that mentions the Small-pox and Measles Page 140 — called an <i>Arabian</i> , wrote in the <i>Syriac</i> T. <i>ib.</i>
ACTUARIUS,	a <i>Greek</i> Physician 173
ALBUCASUS,	an <i>Arabian</i> , improves Surgery 163
<i>Egyptians</i> ,	the first Inventors of Medicine, and the Art of Writing, and the Sciences 14
<i>Art Medical</i> ,	first invented by Kings and Princes 7
— The Knowledge of it	ascribed to the Deity 4
ANDROMACHUS,	and his <i>Theriaca</i> 92
— was the first called	Archiater <i>ibid.</i>
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